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PART FIRST.

ORIGINAL COMMUNICATIONS.

ART I.—*The Medical Properties and Therapeutic Effects of the Chlorate of Potash; including the History of a remarkable case of Hæmatothorax, successfully treated by this remedy.* By E. J. FOUNTAIN, M. D., Davenport, Iowa.

THE introduction of this article, the chlorate of potash, into our materia medica, has been comparatively recent; and not until within the last few years has it attracted much attention from the medical profession. Even yet its power as a therapeutic agent is but little appreciated, and many of its properties are comparatively unknown. An experience of seven years in the frequent use of this salt in various affections and often with surprisingly favorable results, enables me to speak confidently of its properties as a medicine, and to present some facts in relation to the same heretofore unnoticed.

To the chemist the chlorate of potash has long been known as an article of great utility in the laboratory. In composition it has six equivalents of oxygen, and one each of chlorine and potassium.

Its chief characteristic consists in the facility with which it parts with its large excess of oxygen. By the application of moderate heat, about thirty-nine per cent. of pure oxygen gas is evolved, leaving as a residue the chloride of potassium. Advantage is taken of this property in the arts in making friction matches and priming for cannon and firearms.

In the present article I propose to show that this same property, viz. the large amount of oxygen in loose combination, constitutes it an agent of great power in the human economy,

and furnishes us with the means of aiding the operations of nature in some of the vital functions of the body, and in important ways controlling the effects of disease and injuries. The peculiar mode of its operation, physiologically considered, will be noticed after presenting some evidence of its practical utility in the treatment of disease. From the facts and cases here offered, some data can be obtained upon which to found a tolerably well sustained opinion, relating to its physiological action in many conditions of the body, in which it manifests its greatest power, while in others it must remain as yet a matter of hypothesis. I will first notice its peculiar property in arresting mercurial stomatitis, as its utility for this purpose is more generally known than any other, and the testimony in its favor so strong as to leave no doubt of its specific action in this particular. In the latter part of the year 1857, I became acquainted with this property of the chlorate of potash by direct experiment. At that time I had charge of the hospital of the Panama Railroad Company at Aspinwall.

The peculiar type of the diseases prevailing on the Isthmus of Panama rendered the frequent and liberal use of mercurial preparations highly necessary, and as an unavoidable consequence often resulted in ptyalism. In one case that I had in November, 1851, the ptyalism was unusually severe. The patient had been under treatment for dysentery, from which he was recovering, when the salivation occurred. It soon became so excessive that the poor fellow rested constantly with his head leaning over the edge of the bed, unable to eat or speak, and with difficulty could even swallow a drink of water; while the viscid saliva ran constantly and profusely from his mouth. All the ordinary local applications were used to no purpose, and day after day passed without any relief, until I began to be really alarmed for his safety. While meditating upon what I should next try for his relief, it occurred to me that, inasmuch as the chlorate of potash was known to be useful in the ulcerative stomatitis of children, as recommended by Dr. West, it might possibly be of service in this affection of the mouth produced by mercury. With this view I gave him twenty grains every three hours, and directed him to use a solution of the same as a wash for the mouth. The effect of this treatment seemed like magic. In so short a time as twenty-four hours, the discharge of saliva had nearly ceased, the fœtor of his breath all gone, and he could speak plainly enough in expressing his thanks for the great relief he had obtained.

I was as much surprised as pleased with its happy effects, and directed him to continue the use of the medicine as before. In a few days he was entirely well. This was my first experi-

ment with the chlorate of potash, in mercurial stomatitis, and the case was so remarkable in all respects, as to impress me at once with the belief of its power of arresting this extremely unpleasant affection. On the first opportunity following I tested its virtue again with equally gratifying result, and after this I used it in every case that occurred, and always with the same effect in producing a prompt and speedy cure. During the course of the year following, I communicated the knowledge of this property of the chlorate of potash to several of my professional colleagues, and particularly to Dr. I. M. Adler, who became associated with me as one of the surgeons of the Panama Railroad Company in 1852. From him I soon learned that his experience fully corroborated my own, and subsequently in our practice in that country and elsewhere we have found it a never-failing remedy. In this connection I will quote a few lines from a letter of Dr. Adler, in reply to a note of inquiry on this subject: "Sometime" he states, "in the winter of 1852, while we were engaged in the service of the Panama Railroad Company, you communicated to me the result of your experience in the use of the chlorate of potash in mercurial stomatitis.

Having encountered great difficulty in treating those aggravated cases which often occurred among the laborers and others employed in that work, from the necessity of using so commonly large and repeated doses of mercurials in combating the violent diseases of the isthmus, I immediately tested its efficacy. I have found its effects sure and immediate, and since that time I have depended on no other remedy. Such has been the uniform success following the administration of that salt in cases of mercurial stomatitis, that from my own experience I consider it an absolute specific. *It has never failed.* At the time you suggested the treatment it was entirely new to me, and from all the inquiries and investigations I have made, with regard to this special use of the chlorate of potash, I find no claim of discovery prior to your own."

In the January No. of Braithwaite's *Retrospect* of 1857, is an interesting article on the use of chlorate of potash, by Dr. Hutchinson. The article appeared originally in the *Medical Times and Gazette*, August, 1856. After illustrating its utility in ulcerative stomatitis by numerous cases, he reports three of mercurial ptyalism, which he treated successfully by the administration of chlorate of potash. Concerning this treatment he says: "At the time these cases were under treatment, I did not know but that they were the first in which this remedy had been tried in salivation; but more recently I have been glad to find much corroborative testimony in a paper published in the

Bulletin Général de Thérapeutique, for May of the present year. It would appear that M. Herpin, of Geneva, MM. Blache and Demarquay, of Paris, have all tried it, each in a series of cases, and with the most favorable results.

"To Mr. Herpin belongs the merit of having been the first to use it." The first notice of the use of this salt for mercurial salivation appeared from this eminent physician in the *Bulletin de Thérap.*, for March, 1855. There appears to be no claim made by any one to the trial of this remedy for the purpose under consideration, prior to this date. Dr. Hutchinson remarks: "to those who have confidence in the powers of the chlorate against other forms of stomatitis, the employment of it against that caused by mercury is but a very natural step, and there is nothing surprising in the circumstance that it should have suggested itself to several independent observers about the same time." This appears to have been the case with the European observers, by none of whom was it noticed until three years after I had commenced its use in practice. The difference in time is so great that it is but justice to myself to claim priority in the discovery. During the three years previous to the time when this remedy was first tried by M. Herpin, I had used it so frequently that it had ceased to be a novelty. So great became my confidence in it during that period that the liberal use of mercury, so frequently necessary in that country, was disarmed of its most objectionable feature by the facility with which its unpleasant tendency to produce ptyalism could be arrested.

In some cases where I have thought it necessary to continue the use of the mercury for a long time, and danger of ptyalism was apprehended, I have given the chlorate as a prophylactic. In this way, I believe, it anticipates and prevents the unpleasant effects of mercury, and enables us to pursue the treatment longer and with more confidence, when its continued administration is desirable. The following from the *Medical Times and Gazette*, Nov., 1856, gives the experience of M. Ricord to the same effect. "Several trials made by M. Ricord exhibit the power of this substance not only in checking mercurial salivation after the suspension of the mercury, but even when continued and increased. Of still greater importance is its prophylactic agency; for, in a considerable number of patients, some of whom were extremely susceptible of mercurialization, who took the chlorate from the commencement of the course, no salivation at all occurred."

It would appear that the chlorate of potash possesses the property of exerting a special influence over all inflammations affecting the mucous membrane of the mouth. To this we may

perhaps except the syphilitic, and to some extent the nursing sore mouth. Occasionally I have found the chlorate of service in the latter affection, but it cannot be depended upon generally, the appropriate treatment being such as will restore to the blood its proper proportion of mineral and saline ingredients.

In the spring of 1855 there happened to be a deficiency in the supply of vegetables in this part of the country, in consequence of which very many of the poor people lived almost entirely upon salt meats, and the cheapest food which could be obtained. My attention was not called to this fact until I had seen a number of cases of sore mouth of a decidedly scorbutic character. By investigating the cause of the disease, with the view of determining its nature, I found these facts to be as I have represented, and a rational solution of the difficulty obtained. A peculiar type obtained in all the cases that came under my observation, to the number of about thirty or forty. In all, the gums were swollen, red and tender in the early period of the disease, with a tendency to bleed from slight causes. When the disease had advanced further, the gums were livid and spongy, rising up around the teeth, and frequently bleeding at the slightest touch. In these cases the breath was offensive, but there was no great amount of salivary discharge. The usual constitutional symptoms of scurvy were generally wanting. I frequently noticed a paleness of the complexion, and a general sallowness of the skin, but no purplish blotches or petecchial spots were observed upon the body, or any marked degree of muscular debility. In this respect the disease appeared in a type corresponding with that reported by Dr. Foltz, of the U. S. Navy, on the scurvy which appeared in the squadron blockading the ports in the Gulf of Mexico. That the disease was a mild form of land scurvy was evident from the symptoms and from the circumstances mentioned. Having much confidence in the chlorate of potash in mercurial stomatitis and other forms of inflammation of the mucous membrane of the mouth, I made trial of the same remedy in this affection, and in the same manner as recommended for ptyalism. The good effects were in every instance as prompt as in the latter complaint, and in every case that came under my observation no other treatment was required. That I might accurately determine the influence of the medicine, I did not direct any change in the diet during its administration, but after a cure was effected I recommended a more liberal use of vegetable food. In some instances all the members of a family, husband, wife, and several children, were alike affected, and in every case a speedy recovery followed the use of the chlorate of potash. A number of times I had calls from

those in the country who had been cured by this treatment, requesting a large quantity of the solution for certain families in their neighborhood, affected in the same manner; and afterward I was informed that in all these cases the result was the same. So often did this happen that I learned to regard the remedy as a certain specific, and prescribed it in all such cases with the utmost confidence, and in no instance was I disappointed in my expectations.

Dr. Hutchinson reports a number of cases of phagedenic ulceration of the interior surface of the cheek, in which the internal administration of the chlorate was followed by a speedy recovery. In these cases no other remedy was given. Some of them had obstinately resisted all other modes of treatment for several weeks before coming under his care. The following case from my own practice presents a striking instance of its curative power, over the malignant form of ulceration of the pharynx. The patient was a boy about eleven or twelve years of age, whose general state of health was represented as having been very good. The family were living in a small ill-ventilated dwelling. I was first called to the patient about a week or ten days after the commencement of his sickness, when the parents began to think his condition really dangerous. Immediately upon entering the room, I perceived a very fetid odor, which I found proceeded from the breath and throat of the patient. All parts of the pharynx appeared to be in a gangrenous condition, much swollen and almost black in color. The odor was very powerful and extremely offensive, the character identical with that proceeding from a gangrenous and rapidly decomposing tissue. His breathing was much impeded, and from its peculiarity connected with the severe and extensive disease in the throat. I feared there was impending the danger of death from œdema of the glottis. He was in a semi-comatose condition, from which he could be roused to consciousness and apprehension of what was said to him only by considerable effort. At such times he could swallow a little liquid but with great difficulty. There appeared to be a quantity of vitiated mucus impeding the entrance of air into the larynx. To remove this and clear out the throat, I thought it best to give an emetic. I first applied a saturated solution of nitrate of silver to all parts of the throat, within reach, after which I gave twenty grains of ipecac., and five of tartar emetic, with ten grains of calomel. I left the same quantity of tart. emet. and ipecac., with directions to give a third of the mixture every twenty minutes until it operated. I returned to see the patient two hours after, and to my surprise and disappointment I found he had taken all I had left for him,

without producing any symptom of vomiting. I immediately gave twenty grains of the sulphate of zinc, but with no better success. This convinced me that the stomach was insensible from deficient innervation, and argued unfavorably for the prognosis. As soon as I became satisfied that the zinc would not operate, I administered, as a last resort, a tablespoonful of mustard. I had great difficulty in getting the patient to swallow this, but finally succeeded, and anxiously waited the result. No symptom of vomiting was produced by even this expedient, and now his case appeared desperate. He had taken forty grains of ipecac., ten of tart. emetic, twenty of sulphate of zinc, and a tablespoonful of mustard, all without any effect!

The stomach was evidently insensible to any stimulus, and the patient was fast sinking into a moribund condition.

In this extremity I desisted from all efforts to produce emesis, and resorted to the use of the chlorate of potash, with but little if any expectation of doing any good, but administered as the only means at all likely to improve his chance of recovery. Fifteen or twenty grains were given in solution every two hours, and the extremities kept warm by hot applications. This was in the evening. In the morning, to my agreeable surprise, I found the patient a little improved. The various emetics, together with the calomel given, had operated upon his bowels in the latter part of the night, producing a profuse but not a violent catharsis. A little more warmth had returned to the surface of the body, and the breath was less offensive. I again applied the nitrate of silver as before, and ordered the chlorate to be continued in the same manner. From this time he steadily improved on the use of the chlorate of potash, with no other remedy. His recovery was quite rapid, so that within a week my attendance was discontinued, and the patient convalescent. In this case the putridity of the ulceration was so great that it filled the whole house with the most offensive odor. The partial asphyxia produced by the œdema about the glottis, and the contaminating influence of the gangrenous condition of the fauces, combined to poison the fluids of the body, interrupt the healthy action of all the organic functions, and indicated their effects upon the sensorium, by stupor and coma.

The degree to which this had arrived may be inferred from the complete insensibility of the stomach. A large quantity of a number of the most powerful emetics produced not the slightest effect. This fact impressed me with the belief that he was beyond all hope of recovery and no remedy could be of any avail. At this critical period, I abandoned all othe treatment, and administered liberally the chlorate of potash.

The result has just been stated. The immediate change in his symptoms, and the rapidity of his recovery, indicate very plainly the powerful and curative influence of this remedy under circumstances the most discouraging.

In presenting cases to illustrate the therapeutic effects of this remedy, I shall, for brevity, select but few from many that I might offer, giving only such as very strikingly exhibit the peculiar properties of the medicine in different diseases.

I will state in general terms, that I have given the chlorate of potash in many cases of ulcerative stomatitis, and have never known it to fail. With this I will leave the consideration of its application to diseases, affecting the mouth and throat, and present some cases where the organs of respiration are the seat of the disease, or where they are involved secondarily with other vital parts of the body. In all these cases, although they are entirely different in character from each other, *imperfect aëration of the blood*, from some serious impediment to respiration, forms one peculiarity. The first is a well-marked, and very malignant case of pneumonia typhoides; a disease, Dr. Hooker remarks, "in which the effects of imperfect aëration of the blood are remarkably prominent."

Case—Pneumonia Typhoides.—I was called on Friday, February 26th, 1858, to see Mr. Francis Graham, a young man of good constitution, and previous good health. I found him in high fever, which had been preceded for some days by loss of appetite and a sense of weariness and general lassitude. The tongue was brown, dry and hard, except at the edges, which were moist and red, and the papillæ elevated. He complained of great pain in the back, and constant nausea, which frequently resulted in vomiting. The high fever attended with great pain in the back, made me suspect it to be a case of variola, of which there was at that time a number in the city—while the appearance of the tongue, superadded to these symptoms so early in the attack, indicated a severe type of fever of some kind. The treatment for the time was based upon general principles, with the view of preparing the system for any definite line of treatment adapted to the peculiar nature of the disease yet to be revealed. A mercurial cathartic was followed by diaphoretics and sedatives for this purpose. A sinapism to the epigastrium and cold acidulated drinks somewhat alleviated the irritability of the stomach, but still the nausea and vomiting continued at intervals during the following day. The tongue continued dark and dry, and the fever and pain in the back of the same character.

Sunday morning, symptoms unchanged, except a general aggravation of all unfavorable appearances. The tongue was

black and hard, and sordes accumulated rapidly on the teeth. The breath was quite fetid. About ten o'clock, he began to cough for the first time. This rapidly increased, and by twelve o'clock a copious viscid prune-juice expectoration followed. When I saw him in the morning, there had not been the slightest effort at coughing, or any symptom attracting my attention to the lungs; and my surprise was great when at mid-day I found him manifesting all the well-marked rational and physical symptoms of pneumonia. It involved the whole of the right lung with symptoms of congestion, and threatened invasion of the left. The true character of his disease was now apparent, as a very severe and malignant case of typhoid pneumonia. The physical prostration was very great. The secretions were assuming a putrescent character, as indicated by an extremely fetid breath, and the rapidly increasing sordes of offensive character on the teeth and under the whole surface of the mucous membrane of the mouth. His respiration was rapid, and labored, pulse frequent and oppressed. The surface of his body presented a dusky pallor. He passed his urine involuntarily and unconsciously in bed. His mind was generally clear in comprehending questions and giving answers, yet he was gradually, at this early stage of the disease, losing all consciousness of the functional operations of the body, and all power over their actions. The extreme rapidity with which the symptoms peculiar to the latter stages of the typhus, and typhoid fevers, appeared in this case, indicated a virulence of disease of unusual severity and very alarming character. After a full consideration of the nature of the case, I concluded the indications to be fulfilled at this stage of the disease were of a threefold character; *first*, to sustain the failing powers of life by stimulants and tonics; *second*, to subdue the local inflammation of the lungs; and *third*, to arrest the tendency to putrescent degeneration of the fluids, and sustain the functions of respiration, by furnishing the system aids in the oxygenation of the blood, and favoring the diminution of its rapidly increasing impurities. To fulfill the first, quinine was given as a general tonic and stimulant, and to promote contraction of the relaxed tissue of the lungs. To this was soon added the more active stimulation of brandy and ammonia; constant support to the function of nutrition, and repair of the waste of the tissues was furnished by the regular and frequent administration of strong beef tea. For the second indication, a large blister was applied to the whole of the affected side, and internally was given a diaphoretic and sedative mixture, of the compound spts. of ammonia, syr. ipecac., and tincture aconite. To fulfill the third indication,

the chlorate of potash was freely administered. His medicines were directed to be given punctually every hour as follows: First, a pill containing two and a half grains of quinine, the next hour the diaphoretic mixture, and the next fifteen grains of the chlorate of potash, in solution, then the quinine again, and so on in alternation, each every three hours. A little barley-water and beef tea were given occasionally in the intervals.

On the following morning the blister had raised well, the fœtor of his breath had disappeared, his respiration was less hurried and his complexion not so livid, but otherwise, his symptoms appeared desperate; a diarrhœa had set in toward morning, his evacuations and the passing of urine being involuntary, and with entire unconsciousness of their occurrence. A large mass of black and tough sordid accumulation was taken from the roof of his mouth, large enough to completely fill the cavity to a level of the lower margin of the gums, and extending back to the palate. The black sordes had to be almost hourly removed from his teeth and tongue, with the aid of acetic acid. The bloody viscid expectoration was to-day very abundant, mucous râles over all the right side of the chest, and slight crepitation over some portions of the left. Pulse very rapid and weak. A powder containing half a grain of morphine, five grains of tannin and two of acetate of lead, checked the diarrhœa. The same medicines were given every hour as the day before, and brandy now added with the beef tea, in the intervals, every two hours.

Tuesday, patient extremely low, believed to be dying, by all the family and friends. The diarrhœa had returned, but was kept in check by the same powders as before. Pulse hardly perceptible. A mass of accumulated sordes removed from his mouth, the same as on the day previous. Expectoration still viscid and bloody, but less abundant; mind wandering most of the time, but no delirium, no fœtor of the breath; color of the skin natural. Substituted carbonate of ammonia and brandy for the diaphoretic mixture, doubled the doses of chlorate of potash, and gave the quinine as before.

The further history of the case, I will briefly give in outline only. He continued a few days in the same critical situation as last described, during which time the quinine, chlorate of potash and brandy were given unremittingly, by which the disease, local and general, was gradually subdued, and the vital forces kept in action and supported; the expectoration rapidly diminished. By the latter part of the week, the stimulants were given less frequently, and the chlorate of potash gradually withdrawn, as the secretions began to assume a more natural character, and the respiration was more easily performed.

All signs of the pneumonia soon disappeared, and the convalescence was very rapid.

Attendance was discontinued in eighteen days, and the patient was able to leave the house and walk about without inconvenience in three weeks, from the first development of the disease.

The value of the chlorate of potash in this case was strikingly evident by the arrest of the fœtor of the breath, the change in color of the skin, and less labored efforts of respiration. The several principles of treatment appeared equally indispensable, and while I regard the constant administration of quinine and brandy, with the liberal use of nutritious diet, as the sheet-anchors in the means used for his restoration, yet I am equally positive in the belief that these would have been unavailing without the powerful and efficient aid of the chlorate of potash.

I will now call attention more particularly to the peculiar property of the chlorate of potash, which I consider paramount to all others, and one which appears to be entirely unnoticed in any practical application by the profession generally. This property is manifested in its power as an oxydizing remedy by which the chief function of respiration is aided and supported as its primary effect, and secondarily the process of absorption is stimulated and increased by its agency. This has been partially exemplified in the preceding case, but in those which will be presently related this effect will be far more strikingly manifested, and its practical utility shown to be of the utmost importance.

The first illustration of the efficacy of the chlorate of potash in promoting arterialization of the blood which came under my observation, was manifested in a case of cyanosis from disease of the heart. The patient was under the care of my brother, Dr. Hosea Fountain, of Yorktown, New York, and by him was my attention called to the following phenomena: the cyanosis had existed for several years in an adult, from gradually progressing organic disease of the heart, attended with dyspnœa, general weakness, etc. As an experiment, he gave the chlorate of potash, with the view of furnishing oxygen to the blood. After the administration of a few doses, the peculiar blue color of the skin entirely disappeared, and the dyspnœa was very much relieved. When the use of the chlorate was discontinued, the blue color returned as before, and again disappeared when it was resumed. During the period of about a year following until the death of the patient, this article was used almost every day, and always with the same effect, establishing a direct connection, as cause and effect, between the administration of the

chlorate of potash and the disappearance of the blue color of the skin—in other words, it directly *demonstrated* the fact that its administration arterialized the venous blood, which was circulating through the capillaries in all parts of the body. So striking was its effect in this particular, that it convinced me of its power as a remedial agent in supplying us with the means of meeting an important indication, frequently arising in the practice of both medicine and surgery. Since then, now many years ago, I have frequently used it for such purposes, and generally with happy effect. Two well marked cases will be given, which, with those preceding, will serve to illustrate the application of this remedy to instances of varying character in different departments of our profession.

Case—Hæmato-thorax from a wound of an intercostal artery.—Mr. Isaac Maas, aged 30, a man of strong constitution, and in perfect state of health, was wounded in the afternoon of the 14th of December, 1857, by a knife, which penetrated through the wall of the chest, under the axilla, on the right side. I was sent for immediately, but not found until about two hours after the occurrence. Upon my arrival, I found him in the care of Dr. Schlegel and two irregular practitioners. The patient was exhibiting symptoms of serious constitutional disturbance. His face was very pale, and his appearance wild and excited. His breathing was very rapid and much oppressed, and he greeted me with agitated and earnest entreaties to relieve and save him. He was not suffering with any acute pain, but a terrible oppression, and a sensation of impending suffocation. His call for water to allay his thirst was almost constant. His vision was very imperfect; the surface of his body was cold and pale, and covered by a clammy sweat, and his pulse was hardly perceptible. His appearance and general symptoms immediately impressed my mind with the belief that he was suffering from extensive hemorrhage, and my first inquiry was directed to this particular. I was answered that there had been but very little loss of blood, and no suspicion was entertained of internal hemorrhage. The wound had been united by sutures before my arrival, and this had been done while the pleural cavity was being rapidly filled with blood, escaping from a division of an intercostal artery! The wound was about three-quarters of an inch in length, penetrating through the fifth intercostal space, a little in front of the anterior edge of the scapula. The upper angle of the wound was against the lower margin of the rib. I was informed it had been made by a somewhat hook-pointed blade of a large pocket-knife. The right side of the chest was everywhere extremely dull on percussion, even as high as the clavicle in

front, and there was an entire absence of all respiratory sounds over this region, and puerile respiration over the left. I immediately concluded that the intercostal artery had been divided, and extensive internal hemorrhage had taken place, filling the pleural cavity, and compressing the lung upon the spine. This fully explained all his symptoms, which were of a twofold character, resulting first from the loss to the circulation of a large quantity of blood, and secondly from the respiratory functions being impeded by the great compression to which one lung was subjected, excluding both the circulation of blood and the entrance of air. There had been no coughing of blood, or any coughing whatever, from which it was evident there was no wound of the lung itself. The wound had been united by sutures, and I now hesitated about the propriety of removing them, and endeavoring to secure the vessel from which the blood had escaped. The chest appeared already completely filled with blood, and to such an extent as to force down the liver below the edge of the ribs and the epigastrium, and crowded the mediastinum to the left of the median line. His chest was heaving violently and rapidly in labored respiration. He was almost pulseless, his countenance ghastly, and skin bloodless. His sight was so imperfect that he recognized me only by my voice. He was evidently in such a condition that the additional loss of even a small quantity of blood would in all probability be immediately fatal. I feared this if I attempted to secure the artery, and could only regret that I had arrived too late for this proceeding. Accordingly, I did not observe the directions of Mr. Guthrie in such cases, by reopening the wound, but believed it would be safer to try to arrest further hemorrhage by bandaging the chest to prevent all motion of the ribs on that side, and trust to the resistance of the already escaped blood, and the formation of a coagulum by external compression and perfect quiescence. Diffusible stimulants were immediately administered, and compression produced by applying strips of adhesive plaster as tightly as possible, from the spine to the median line in front, over the injured side. The whole side of the chest was covered with them, and so firmly as to completely arrest all motion of the ribs on that side, while the other was left free and unimpeded in the motions of respiration.

A roller was applied tightly around the whole chest over the adhesive plaster to restrain the violent action of the ribs on the uninjured side. Immediate relief to a considerable extent followed the application of the bandages. Three-quarters of a grain of morphine was now administered, and stimulants of ammonia and brandy ordered to be given frequently during

the night. He passed a very restless night, but by aid of the stimulants, reaction was established by morning.

The pulse was now increasing in fullness, the excessive loss of blood being replaced by the water, which his urgent thirst had demanded during the night. Respiration still hurried and performed with a sense of insufficient effect to the patient. Apparently no further hemorrhage had taken place since the application of the adhesive strips and rollers, but a careful examination revealed more distinctly the extent to which the effusion had displaced the viscera of the chest and abdomen. The whole cavity of the chest on the injured side was completely filled with blood, compressing the lung so thoroughly that no air could be heard to enter even the primary bronchial passages, and the dullness was extreme over all parts of this side of the chest. There was no more resonance than could be obtained from percussing the thigh, or a solid block of wood, and this dullness extended over the epigastric region to a line midway between the lower end of the sternum and the umbilicus. In the chest itself, the pericardium and left lung were crowded a little from the median line by the pressure of the large mass of blood in the pleural cavity. Could this ever be absorbed to such an extent as to permit the liver to return to its normal position, and the compressed lung to expand sufficiently to resume its functions? We believed it next to impossible. The amount was so great, and the displacement of vital organs so extensive, that a fatal termination was regarded as almost inevitable. I will omit unimportant details of treatment, merely stating that he was watched almost constantly by either Dr. Schlegel or myself, and prescribed for on general principles as the symptoms indicated. In a few days he began to sink, and further consultation was determined upon.

On the seventh day after the injury, the patient was carefully examined by Drs. Adler, Langer, Schlegel, and myself. At this time, auscultation revealed the existence of congestion of the left lung. So great a tax had been suddenly thrown upon the left lung (already somewhat reduced in capacity) that it appeared as if about to give way to the strain. No symptom was more alarming than this. The dyspnœa was very great. He was unable, at any time since the injury, to assume the recumbent position, but had to be supported in a sitting posture, with the body nearly erect. His respiration was very rapid, varying from thirty-five to forty, and quite irregular; the pulse about one hundred, proportionally much slower than the respiration.

At a formal consultation, held in the evening of the day above mentioned, each in succession expressed the opinion that

there appeared to be no chance or hope of his recovery. On requesting the advice of each as to the plan of treatment which might be adopted with the view of improving his chance of recovery, nothing was suggested more than palliating remedies, such as fomentations, anodynes, etc. It then occurred to me, that inasmuch as he appeared to be sinking chiefly from want of capacity on the part of the lungs to perform their great function of aërating the blood, I thought that possibly their office might be aided, and the blood oxygenized by the administration of the chlorate of potash. I related the history of the preceding case of cyanosis in explanation of my views, and as evidence that it possessed this power, and proposed to give it a trial in the present case. The proposition was readily assented to, and I prescribed twenty grains to be given in solution every three hours. Within twenty-four hours evident signs of improvement appeared. The respiration became less rapid, and he complained less of the distressing oppression through his chest, which had previously been so urgent. We were highly gratified to see this improvement continue. The chlorate of potash was given regularly and unremittingly night and day. All other treatment was merely adjuvant. Opiates were required for a time pretty freely to induce sleep, and poultices were occasionally applied over the injured side. In a few days he was removed to more comfortable quarters, and the chlorate given in doses increased to thirty grains every three hours. The stitches now parted from their hold, and the margin of the wound protruded considerably from the surface. At this time the right side of the chest measured an inch and a half more in circumference than the left. A tumefaction supervened about the wound, and a tendency to suppuration manifested. Poultices were now applied continually. Paroxysms of great distress and prostration occasionally occurred, but from these he would soon rally, and the general and slow improvement continue. Suppuration in the parts about the wound commenced December 26. The discharge was very copious. The pus had burrowed extensively between the muscles and fascia of the walls of the chest. Strips of adhesive plaster were applied underneath the wound, to effect local compression, and the poulticing continued. His urine now became loaded with non-crystalline organic deposits, presenting somewhat the appearance of a purulent character, but on subjecting it to microscopic examination, I found it composed of globules of less opacity than pus, and presented no appearance of nuclei on the addition of acetic acid. The urine was sufficiently abundant, and there were no indications of any disorder of the kidneys or bladder. We were disposed to regard the urinary

deposit as evidence of rapid absorption of the blood from the pleural cavity, and that some portion of the disintegrated deposit in a state of solution was eliminated by the kidneys, and appeared partially reorganized in the urine.

Early in January, the patient, who had been doing well up to this time, suddenly began to fail. The pulse ran up to one hundred and twenty, and the respiration increased in frequency to thirty and thirty-five per minute. Stimulants failed to afford any relief. For two days he continued in an extremely critical situation, and we all believed he would survive but a very short time.

I then discovered that the attendants had discontinued giving the chlorate of potash since the day previous to his last sudden change. His improvement had been so steady and uniform that they presumed to think its further use unnecessary, and discontinued it without my knowledge.

I immediately gave a very large dose, about fifty grains, and repeated it in a short time, and then resumed its administration as before. In less than six hours the patient showed signs of improvement by less frequent and oppressed respiration. In twenty-four hours his respiration again returned to twenty-two or twenty-four, and his pulse dropped below one hundred.

By the day following, he felt as well as before this sudden change in his symptoms. From this time, no doubt was entertained of the direct agency of the remedy in promoting his recovery. The amount of suppuration gradually diminished. Occasionally after this he would feel very bad for a short time, but it was owing to some temporary disturbance, and did not seem to retard his recovery. By the latter part of the month his improvement was so great that the chlorate of potash was gradually discontinued, and nitric acid substituted for a short time. As this case is an interesting one of very unusual occurrence, I will briefly conclude its history. He continued steadily improving, and was soon able to sit up part of the day, and walk a little about the room. The right side of the chest still remained as dull as ever, and no respiratory murmur could be heard on auscultation, but the respirations were becoming easier and less frequent; urine still cloudy. I now prescribed cod-liver oil and the syrup of the iodide of iron and manganese. By the first of February he could walk downstairs, and venture a little out of doors each pleasant day. Iodide of potassium was substituted for the iron after the latter had been taken about two weeks. About the first of March, a faint distant bronchial sound could be heard in respiration over the root of the lung. The dullness still continued the same. The principal uneasiness sometimes amounting to quite severe

pain, he felt in the epigastric region where it was still hard and dull. The slightest exertion quickly increased the respiration, and occasioned a sense of suffocation, and more or less dyspnœa. In this condition he remained with slow and variable improvement for a number of months, when the aids of a change of air and entire freedom from business cares by travelling abroad were recommended. Upon this suggestion, and prompted by his own inclination, he left on a trip to Europe in the month of August, seven months after the injury. By this time the line of dullness had almost, but not quite, receded from the epigastrium and the lower border of the ribs, and indistinct and distant respiratory sounds could be heard over the greater part of the chest. Absorption had evidently taken place to a great extent, permitting the return of the liver and diaphragm nearly to their normal position, and the lung to expand sufficiently to admit the entrance of considerable air in breathing. The general dullness still existed, but much less in degree, indicating that a layer of uncertain thickness of hardened and probably semi-organized blood still remained in contact with the pleura costalis completely incasing the lung.

The history of this case furnishes direct evidence of the value of the chlorate of potash in aiding the function of respiration, when mechanically impeded by the compression of fluids or solids in the cavity of the pleura. To its efficacy in supplying the blood with its vital element of oxygen was unquestionably due the recovery of the patient. As if to confirm and demonstrate its therapeutic effect in this particular, it was, unintentionally on my part, discontinued for a few days, when the patient immediately relapsed, and again as rapidly improved when it was resumed. When he passed from under its influence, his respiration became hurried, difficult, and oppressed, and so great was the prostration, and so alarming the symptoms, that we all believed a fatal termination would soon follow. At this critical period, for the second time in his case, the chlorate was again administered, and quickly the respiration was quieted down to its previous standard, the dyspnœa was entirely relieved, and all his alarming symptoms dissipated.

As an instance in medical practice, strictly analogous to the above, I will briefly state the effects of the chlorate of potash in a severe case of *hydro-thorax*. The patient, Thomas Smith, a young man aged 23, of delicate constitution, and predisposed to phthisis, was attacked with a violent inflammation of the right pleura, in the latter part of December, 1858. This resulted in rapid and extensive effusion of serum into the pleural cavity, which became so completely filled that the dullness ex-

tended to the summit of the lung. The fluid apparently filled the pleural cavity to its utmost capacity. I will omit all details of symptoms and treatment, excepting such portions as have a direct relation to the subject under consideration. The symptoms of the patient were, in all respects, characteristic of the existence of hydro-thorax of the most alarming character, among which rapid respiration and dyspnœa were the most prominent. At this time and previously he had been treated as is usual in such cases, by purging, blistering, mercurials, etc. Depletion by bleeding had not been resorted to on account of his previous constitutional debility.

In a consultation had at this time, the case was considered extremely critical, but I was soon encouraged by some sign of improvement. The respiration became less oppressed, and by percussion and auscultation it became evident that the fluid was diminishing in quantity. This improvement continued for about a week, and then he remained in an unchanging condition for about the same length of time; symptoms of derangement of the left lung now began to appear, indicated by mucous râles, pain and cough. The right lung had as yet but partially recovered its capacity, and now the aëration of the blood was interfered with to a considerable extent, by the congestion and bronchial secretion in the left. The effect of this soon became manifest in hurried respiration, increasing dyspnœa and restlessness. Active measures were resorted to with the view of arresting this complication, but without any avail.

He failed rapidly until, on the 28th of January, his condition appeared more hopeless than at the previous critical period. His cough became very severe, accompanied with a muco-purulent expectoration. Dullness over the inferior and posterior part of the right lung, irregular crepitation and subdued respiratory murmur, but no appreciable dullness, over a great portion of the left. Respiration 28 and frequently 30; pulse 100. At this time I discontinued all other treatment and prescribed the chlorate of potash, fifteen grains every two hours. An opiate was given at bed-time, as had been required, and taken for many evenings previous, and with this exception he took no other medicine but the chlorate of potash, from the time it was ordered. On the following morning I found him much improved. Respiration 22, pulse 90, breathing easy; expresses himself feeling much better, continued the chlorate, giving thirty grains every two hours. January 30th, improvement still continues, respiration reduced to 20, pulse 84. January 31st, respiration the same as day previous, other symptoms improving. On the first day of February his respiration was as low as 18; no dyspnœa; cough easy; expectoration free,

and from its purulent character accompanied by night sweats, great emaciation, etc., was indicative of tubercular disease. This complication retarded his recovery, but he slowly improved and was able to walk about by the first of March, and nearly acquired his usual health and appearance before the first of April. The chlorate was given regularly for more than two weeks, and gradually withdrawn as his symptoms improved. In this case the efficiency of the chlorate of potash was tested in such a manner as to leave no doubt of its agency in producing a sudden and favorable change. The dyspnœa was very urgent. We had in vain tried all other means for his relief, and it was only when his case appeared to be hopeless, that the chlorate was given. It was administered freely, and in twelve hours his respiration was reduced from thirty to twenty-two, his dyspnœa relieved, and the patient rescued from the danger of impending dissolution to comfort and comparative safety.

I will not stop here to discuss what value this salt may possess as a remedy for scarlatina. I will merely say that I regard it as one of the valuable remedies we have in the treatment of some forms of this disease; but by no means as a specific. My object is not to present the claims of this medicine as a specific in any disease (excepting perhaps, mercurial and ulcerative stomatitis), but to *establish a general principle* of its action by which it can be applied to a great variety of diseases in certain stages and conditions. If I succeed in this it will be found to have a wide range for its sphere of usefulness, and will establish in therapeutics a principle of treatment, coextensive with the practice of medicine and surgery.

It is hardly necessary for me to state that the abstraction of oxygen from the atmosphere is the great function of respiration paramount to all others; and next to this is the evolution of carbonic acid, but this is a depurating, while the former is a vitalizing process. Modern researches have established these truths beyond all controversy, and it is no longer contended that the oxygen merely decarbonizes the blood without entering into the circulation, except by those entirely unacquainted with the present state of physiological science. *Oxygen is the great motive power of the human machine.* It is "the leaden weight or bent spring which keeps the clock in motion, and the inspirations and expirations are the motions of the pendulum which regulate it." Without the constant influence of this agent, all the primary functions of the body, animal and organic, would immediately cease. Dr. Carpenter, in his *Human Physiology*, says: "The introduction of oxygen into the blood is necessary for the maintenance of those peculiar vivifying

powers by which the nervous and muscular systems are kept in a state fit for activity, and its union with their elements appears to be a necessary condition of the manifestation of their peculiar powers." The sources of carbonic acid are given as follows: "First, the continual decay of the tissue common to all organized bodies; second, the metamorphosis peculiar to the nervous and muscular tissues, *which is the very condition of the production of their power;* and third, the direct conversion of the carbon and hydrogen of the food into carbonic acid and water, which is peculiar to warm-blooded animals."

In this quotation the author points out the sources of carbonic acid, but it will be observed that in all these changes the presence of oxygen is a prerequsite. The process of disintegration within the body, like that of the decay of all organganized bodies without, is one of slow combustion; and in each the first product is carbonic acid, formed by the union of the free oxygen with the carbon of the tissues.

With every breath that we draw, and every motion of our bodies, oxygen is required to furnish the power which is called into activity by nervous influence. When we consider how universal and how constant are the demands for this vitalizing element, can we wonder at the mischief produced by withholding from the body its regular supply? And when we consider how frequently this supply is interrupted in the course of disease, it appears strange that this subject has received so little—I might almost say *no* attention at the hands of the profession.

I do not find any notice of this subject in relation to its modifying influence in disease and therapeutic indications except in the excellent essay on "The Relation between the Respiratory and Circulating Functions," by Dr. Charles Hooker, published in 1838. In this the author shows how frequently disease is aggravated by this complication, viz., imperfect aëration of the blood, and the therapeutic indications are very clearly pointed out, but the means recommended, though useful indirectly to a certain extent, were far inferior to such as I believe we now have at our command. In all probability the very little attention this paper has received may be owing to the inefficiency of the remedies proposed.

I will briefly notice some of the pathological indications of *imperfect aëration of the blood.* Some have been already presented—viz. when it resulted from mechanical diminution of the capacity of the chest or lungs, as in hæmato-thorax and hydro-thorax; and again in typhoid pneumonia, in which this condition is a constant and prominent feature. Some of the older authors correctly described the symptoms peculiar to this condition, and attributed them to the right source, but failed to

draw any practical inference from it, or to observe the same influence in other diseases. Dr. Southwood Smith, in describing the phenomena of typhoid pneumonia, says: "The dark color of the skin, in some cases becoming quite livid, is one of the most characteristic marks of intense thoracic affection. In these cases it is not uncommon for the respiration to be from forty to sixty in a minute. The cerebral affection is equally peculiar and characteristic; it never consists of intense excitement, it is never accompanied with violent delirium; it is indicated by confusion and stupor, passing rapidly into coma; and it is attended with low muttering incoherence or disjointed rambling, the trains of ideas that pass through the mind being extremely faint, and linked together by no distinguishable affinity. We know that one of the most essential conditions to the due exercise of the sensorial functions is the due supply of the brain with arterial blood; but in this state of the system, arterial blood does not and cannot circulate through the brain, because it is not formed in the lungs; the patient is in a state approaching to asphyxia, and in very severe cases he remains for several days in as perfect a state of asphyxia as seems to be compatible with life. Why debility should, in these cases, be carried to the utmost possible extent, why such cases should form the most exquisite specimens of the adynamic state, need not be pointed out; the disease is concentrated in the very organ which elaborates the pabulum of life, and that stream which should convey its vivifying and animating influence to every nook and point of the system, is corrupted at its source." Dr. Hooker points out the frequent occurrence of imperfect aëration of the blood in a variety of diseases, as *typhous fever*, *congestive typhus*, *pneumonitis*, *pneumonia typhoides*, and *delirium tremens*, in which the imperfect aëration of the blood is occasioned in part by local engorgement of the lungs, and partly by disordered function of the motor respiratory nerves: and in some forms of *typhoid fever*, *scarlet fever*, *erysipelas*, *malignant cholera* and *asthma*, in which it occurs from disordered function of the organic respiratory nerves. In this connection he remarks: "Attentive observation of the symptoms in particular cases is requisite to ascertain whether there is any mechanical impediment to the expansion of the chest, or whether the fault is in the air-passages, the lungs, the motor respiratory nerves, or the organic nerves of respiration. A correct diagnosis in regard to these circumstances is highly important in a therapeutic point of view."

Dr. Hooker justly claims the credit of being the first to propose the use of medicines with a view *to promote arterialization of the blood*. But this amounted to a proposition only, as

all of the remedies recommended have no direct agency or power to fulfill this indication, and their supposed action in this respect is quite hypothetical. These medicines consist of all the ordinary means used to depress the action of the heart, such as venesection, antimony, ipecac., digitalis, etc. Next, remedies which excite and invigorate the motor and organic respiratory nerves, in which are the general diffusible stimulants, as ether, and nitrate of silver for the same effect upon the organic nerves of respiration. In addition to these, ventilation, and remedies which excite vicarious secretions, and others which remove mechanical impediments to respiration, include all which the author proposes. It will be observed that no remedy proper is proposed, which directly promotes the arterialization of the blood. This construction has been placed upon the action of almost all the remedies used in the treatment of fevers and inflammations. The effects of all these we can understand from their well-known properties for which they are ordinarily prescribed, and attaching to them another property which at best is but vaguely apparent, if at all comprehensible, is probably the cause of the little attention which has been paid to this theory since it was offered to the profession.

At the time the essay was written, the physiology of respiration was but imperfectly understood, compared with the discoveries which have since been made, in this department. It was then unsettled, as the author admits, whether the oxygen of the atmosphere was taken up unchanged into the blood, or merely aiding in decarbonizing the blood in the lungs, without entering into the circulation.

This is no longer a disputed question. It is now well known that "there is an absolute removal of oxygen from the air during the process of respiration, and not a mere conversion of this gas into carbonic acid."—*Carpenter's Human Phys.* When this due supply of oxygen is interrupted in any manner, the effects are immediately apparent, and its wants are felt in all parts of the system. If this want is not supplied it constitutes a state of complete or partial asphyxia. To remedy this when it occurs during the progress of disease, there can, of course, be but one effectual method, viz. to supply the blood with that all-important element, for the want of which such serious effects are produced. What Dr. Hooker endeavored to do indirectly, I propose to accomplish directly and efficiently, by the aid of the chlorate of potash. I believe it has been shown that in this remedy we possess the remarkable power of *directly promoting the arterialization of the blood.* I think the effects of this salt, in the case of cyanosis, which I have

related, approach to a positive demonstration of this fact. In this instance the experiments may be considered as mainly physiological, inasmuch as it gave but temporary relief, and as a therapeutic agent could have no influence over the organic disease of the heart upon which the imperfect aëration of the blood depended; but in other cases which I have presented, its agency, in this respect, was equally apparent, and in the highest degree of practical utility. Two cases have been given in which I think it was evident that the chlorate of potash *supplied the blood with oxygen* sufficient to sustain life during the time when respiration was seriously impeded, in one case by blood, and in the other by water in the cavity of the pleura. In each of these cases, the deficient arterialization of the blood was aggravated by an engorgement of the opposite lung; and not until the dyspnœa had become extreme, and the danger so great as to preclude all hope of recovery, was this remedy administered. In another case of a different character, where the imperfect aëration of the blood was the combined effect of an asthenic fever and a local engorgement of the lungs, the same benefit followed its administration. The dyspnœa was relieved, and the blood kept in a due state of arterialization while other remedies were being administered, and thus afforded an opportunity of producing their appropriate effects.

The chlorate of potash may answer another and valuable purpose in promoting absorption. Dr. C. J. B. Williams, in his "Principles of Medicine," remarks: "As a free circulation of blood probably promotes the removal of effused solids, partly by further oxygenating them, the idea is suggested that we may aid this process by the internal exhibition of agents which contain a large proportion of oxygen in loose combination. Nitric acid answers to this description, and whether this be one mode of its action or not, I can affirm from much experience in its use that it is the best medicine that I know for the state of convalescence from inflammations."

Such was the suggestion of Dr. Williams. If the idea is correct, then the chlorate of potash administered for so long a time in the case of Mr. Maas, answered another and valuable purpose, other than relieving the danger and distress arising from imperfect respiration; for if ever an agent was needed to remove effused solids, it was in this instance, and the absorption of so large a quantity of blood from the pleural cavity in a comparatively short time, would seem to add some confirmation to the opinion. Nitric acid may possibly act to some slight extent in the manner suggested, but as yet the opinion is entirely hypothetical. Moreover, strong objections can be made to the opinion that we can derive any such advantage

from nitric acid. It will be difficult for a chemist to understand how this decomposition and assimilation can be effected in the human system, to the extent required for this purpose, and no practical evidence has been furnished to give weight to the opinion. But we know that chlorate of potash readily parts with its oxygen by the influence of a moderate degree of heat or a weak acid—both of which exist in the body in sufficient amount to effect the decomposition to a greater or less extent. This is the theory; and practical confirmation has been made by the cases herewith reported. If by increasing the amount of oxygen in the blood, we enhance its power of removing deposits, then do we have in the chlorate of potash another property of extensive application and great practical utility. It would render it doubly applicable to all cases where respiration is impeded by effusion within the chest, of liquids or solids requiring decomposition for absorption, such as hæmatothorax, empyema, and the hepatized stage of pneumonia.

As most of the products of inflammation consist of protein compounds in some form or combination, the addition of one or two equivalents of oxygen render them soluble by conversion into the *deutoxide* or *tritoxide*, and permits their absorption by endosmosis into the adjoining vessels.

Even tubercular deposits are known to consist principally of protein compounds, and we all know that the most effectual means of retarding or preventing their development consists in active out-door exercise in the pure air of the country, by which the system is supplied more freely with oxygen, and the effete products of interstitial decay more rapidly removed.

Absolute deprivation of exercise, even in pure air, will lead to the deposit of tubercles. This has been well illustrated recently by Drs. Byford and Graham, of Chicago, in experiments upon animals, and confirmation of the opinion is found in the lungs of stall-fed cattle, the same as in the caged monkeys of Paris. The rationale of this can be readily understood when we consider that the circulation is of necessity retarded by want of exercise, and this involves an imperfect removal from the system of such portion of the products of organic decay which results in a deposit of tubercles. The same effect is more frequently the result of living in crowded and ill-ventilated apartments, where the inmates habitually breathe an atmosphere, not only rendered impure by exhalations from the lungs, but also rendered less vitalizing by containing a lower percentage of oxygen. Now, although the blood may circulate freely enough by means of exercise, yet it has not sufficient power, by means of a due proportion of oxygen, to carry on, in a healthy manner, all the functions of the body, and, in the

same ratio, remove all its impurities. The most uniform effect of this retention is a tubercular deposit in the lungs or elsewhere, and this effect is most marked where the two causes are combined, viz. a lack of exercise while living in crowded and ill-ventilated apartments. The limits of this article will not permit me to enter into a full consideration of this subject, and, at present, I merely offer the suggestion that we may find in the chlorate of potash an agent of some value in arresting the deposit of tubercles. This train of thought has naturally followed the hint of Dr. Williams, that we may possibly aid the removal of deposits "by the internal exhibition of agents which contain a large proportion of oxygen in loose combination." I think I have shown that we have such an agent in the chlorate of potash; and by it we may, perhaps, not only aid the removal of deposits, but possibly prevent this occurrence to some extent, in persons threatened with tubercles and other kindred affections. (The case of Thos. Smith gives some practical weight to this opinion. The symptoms of tubercular disease were well marked and alarming, yet they all disappeared while taking the chlorate of potash, which, at this period, was freely given for another purpose.)

The chlorate of potash has been quite generally used as one of the favorite remedies in scarlatina. I think it is justly so regarded, and has fallen into some disrepute of late by the error of depending too much upon its unaided influence.

It has generally been given with the idea that in chlorine something like a specific or antidote had been found for the poison of this disease.

Now, in truth the chlorate of potash is a valuable remedy in meeting particular indications in the treatment of this disease; by arresting the ulcerative inflammation of the fauces, and by its arterializing properties, supporting the recuperative powers of nature when aided by other appropriate treatment. In this connection I will state that I have been in the practice of late of giving it in combination with the carbonate of ammonia with the best effects. (Other aids in the treatment of this disease must vary according to circumstances, but I will mention two which I have found of great value in almost all cases: the application of pure nitrate of silver to the fauces, and of glycerine to the whole surface of the body.)

Some considerations induce me to think it is not the chlorine but the liberated oxygen which constitutes the chlorate of potash—a remedy of value in scarlatina and kindred diseases. If its virtue consisted in the chlorine alone, would not the inhalation of this gas answer equally as well, if not better? There is reason to believe that the decomposition of this salt takes

place to a greater or less extent in all parts of the body in which the blood has free circulation, and that its peculiar power in all putrescent diseases, and perhaps in the various affections of the mouth, may be due to the nascent oxygen exerting its peculiar chemical affinities at the instant of its liberation.

It is well known to chemists that oxygen and other gases, when in a *nascent* condition, possess properties and powers which are peculiar to that state. In this manner gold is dissolved in aqua-regia. When the nitric and hydro-chloric acids are united, a double decomposition takes place by which nitrous acid and chlorine are evolved, and it is the nascent chlorine which acts upon the gold. In pure chlorine gas the gold would remain forever unchanged, but at the instant of its becoming disconnected from some chemical combination it exerts an influence of unusual character, so that even gold yields to its newly acquired power. Again, chlorine acts as a bleaching agent indirectly by liberating free oxygen from the water of the dampened fabrics, and it is in reality the *nascent oxygen* which ultimately acts upon the coloring material. Chlorine has no effect upon goods which are perfectly dry; but let them be moistened with a little water and immediately the bleaching process commences. The presence of water being always necessary, it is reasonably inferred that the chlorine by its natural strong affinity unites with the hydrogen of the water, forming hydrochloric acid, and the oxygen is liberated in a free state by the decomposition. According to this view, the chlorine merely serves as the instrument by which oxygen is furnished in a nascent condition, and, as in the case of the chlorine in the aqua-regia, at the instant of its liberation it exerts a peculiar power which it has at no other time.

Is it not possible that as a disinfecting agent it operates in precisely the same manner? By it nascent oxygen may be generated from the vapor of the atmosphere, and at this instant unite with and change the character of many of the unpleasant and injurious effluvia.

May not the oxygen of the chlorate of potash in the same way correct or neutralize many morbific agents within the body? Though too subtle for detection by human skill, these agents may thus be changed and disarmed of their danger by the operations of nature within her own laboratory.

It will be observed that many questions relating to this subject are yet open for investigation. One general principle of its physiological and therapeutic operation, I think has been fully established. Let this principle be kept in view, and indications for its use will be frequently observed. In other

respects the hints which I have ventured to offer will, I trust, invite the attention of many to the consideration of this subject, and result in a better understanding of some questions which are yet involved in a degree of uncertainty.

Dr. C. H. Jones, of St. Mary's Hospital, England, expresses the opinion that "of late years we have been over-busy in accumulating facts without sufficient reference to principles; or to use Dr. Whewell's term, colligating ideas. Blood globules have been counted, tissues have been scrutinized, both healthy and morbid, secretions analyzed, symptoms described, and râles defined minutely. Far be it from me to decry this painful labor; it has produced fruit, and will, I doubt not, yet more. But have we not, amid all these particulars, thought too little of the general truths which they contain, and which we ought to strive to educe?"

No great objection can be made to this tendency, if such be the fact. All recorded observations and discoveries add to the storehouse of our knowledge, from which they may be gathered and classified at subsequent periods, and a true interpretation of their meaning obtained. In describing the symptoms of many diseases, writers have in all ages mentioned such as indicate plainly enough an imperfect arterialization of the blood. But very few have given to these symptoms a proper interpretation, and heretofore apparently no one but Dr. Hooker has deduced from them any important therapeutic indications.

I believe it has been reserved until the present time to furnish the means of meeting these indications in a manner which is strictly in accordance with scientific principles, and found to be successful when subjected to the test of practice.

The importance of supplying such a want must be apparent to all, and the means here proposed, are offered as worthy of trial. If found to be correct, it will establish a principle in therapeutics embracing a wide range in its operation, and, as manifested in the cases herewith reported, of the highest value in practical application.

[NOTE.—Its application to empyema is manifested by the following statement of Dr. Golding Bird: "The liquor puris of pus contains tritoxide of protein in solution, and the accession of oxygen would soon be able to convert the solid pus-particles into a similar state." In this manner pus may be absorbed while in state of solution, and reappear in the urine by a loss of a portion of the oxygen.]

ART. II.—*Report of the New York Eye Infirmary for March and April, 1859, with remarks on Cases and Treatment.* By F. J. BUMSTEAD, M.D. Assistant Surgeon.

DISEASES OF THE EYE.

Inflammation of the Cellular Tissue of the Orbit	1	Staphyloma	12
Intra-orbital Cyst	1	Kerato-Iritis	2
Injuries of the Lids	3	Sclerotitis	4
Inflammation and Abscess of the Lids	6	Iritis	18
Tumors of Lids	12	" syphilitic	4
Entropion and Ectropion	4	Prolapsus Iridis	2
Trichiasis	1	Cataract	17
Diseases of the Lachrymal Passages	16	" traumatic	4
Tinea and Lippitudo	57	Asthenopia	8
Hordeolum	10	Muscæ	1
Conjunctivitis simple	140	Choroiditis and Retinitis	9
" catarrhal	4	Amaurosis	17
" gonorrhœal	1	Glaucoma	1
" purulent	2	Myopia	2
" neonatorum	6	Presbyopia	1
" phlyctenular	119	Paralysis of Facial Nerve	1
" granular	82	" " External Rectus	1
Pterygium	2	Strabismus	9
Pinguecula	1	Exophthalmos	1
Keratitis	27	Injuries of Globe	22
Ulcer of the Cornea	3	Diagnosis not recorded	10
Opacity " "	25		717
Foreign particles	13	Diseases of the Ear	45
Slough of Cornea	7	Total	762

Operations.—For tarsal tumor, 7; for entropion, 3; for trichiasis—by cutting down upon the bulbs of the misplaced lashes, and destroying them with nitric acid, 1; Bowman's operation on lachrymal passages, 2; for intra-orbital cyst, 1; for strabismus, 7; excision of the globe, 3; for staphyloma, 1; removal of superficial opacity of the cornea, 1; for cataract, 11 (eight by keratonyxis, one by reclination, one by extraction of lens, and one by "linear" extraction); Gräfe's operation of excising a portion of the iris for glaucoma, 1. Total, 38.

Entropion.—Two cases were operated on by scalping the free border of the lower lid. In a third case, in which both lower lids were strongly inverted, Dr. Hinton performed a new operation, viz. the free incision of the external canthus, so as to enlarge the palpebral opening and diminish the action of the orbicularis muscle, which appeared to be the chief cause of the entropion. A small, sharp-pointed tenotomy knife was passed into the palpebro-ocular fold at the external angle of the eye, and, transfixing the skin at the margin of the orbit, the tissues were freely divided. The skin and mucous

membrane of the lower margin of the incision were brought into apposition and held in contact by a single suture of fine iron wire, so as to prevent union of the edges of the wound.

The result of the operation was very satisfactory. The edges of the wound did, indeed, partially unite in spite of the wire suture, but still the palpebral opening was permanently enlarged to a certain extent, and at the present time (six weeks after the operation), the lashes, which before the operation swept the cornea, are turned outward in a natural position. This operation, original, I believe, with Dr. Hinton, was performed by him on another patient six weeks ago, with an equally favorable result.

Diseases of the lachrymal passages.—Mr. Bowman, of the Moorfields Ophthalmic Hospital, London, in the first number of the *Ophthalmic Hospital Reports*, Oct. 1857, published a valuable paper on a new method of treating obstructions of the lachrymal passages. Already in a paper in the Medical and Chirurgical transactions for the year 1851, Mr. Bowman had shown the advantage of laying open the lachrymal canal on the side toward the conjunctiva, in those cases in which the punctum is everted from the globe, and thus enabling the tears to again enter the canal. Subsequently this treatment was extended to cases of epiphora, dependent on lachrymal obstructions, since experience showed that a free communication between the conjunctiva and sac afforded great relief to the patient in preventing collections of matter in the latter and facilitating their evacuation.

From this method of treatment to its still further improvement, as now proposed by Mr. Bowman, in the paper first referred to, only one step was wanting, viz. the dilatation of the stricture wherever situated in the course of the tear passages, taking advantage of the enlarged opening gained by the slitting up of the canaliculus. By referring to the anatomy of the tear passages, it will be found that their smallest diameter is at the punctum—the remainder of these passages, even including the canaliculus between the punctum and the sac, being sufficiently large to admit a probe one-twentieth of an inch in diameter; when once, therefore, the punctum is slit up, advantage may be taken of this opening to restore the passage to its natural calibre by the passing of graduated probes. As Mr. Bowman suggests, there is an analogy between the obstructions of the tear ducts and the urinary passages, and the method proposed by him for the relief of the former is similar to that in common use for the cure of the latter.

The probes used by Mr. Bowman vary in size from a fine hair probe (No. 1) to one of one-twentieth of an inch in diameter (No:

6). For convenience in use, three probes only are made, their two ends varying in diameter, so as to give the six sizes required. Each probe is uniform in size from its extremity, and not bulging at its end like ordinary probes. Nos. 1, 2, 3, and 4 are straight, and are intended to be used only in the canaliculus to dilate a stricture of this portion of the lachrymal passages, when such exists. Nos. 5 and 6 are adapted to dilatation of the lachrymal sac and duct. Their considerable size renders them less likely to penetrate the mucous membrane and produce false passages, than smaller probes. Their extremities are slightly curved in two different directions, while the central part (or that held by the finger and thumb) is straight. "The effect of this is that when the probe is inserted in the sac, and brought into a vertical position, a slight rotation of it on its long axis makes the lower point, which is in search of the orifice of the duct, describe a small circle, and by slightly varying the inclination of the probe, and making gentle pressure at the same time, with slight rotation, the point never fails to enter the duct. The right and left probes have opposite curves to suit the inclination of the duct."

Mr. Bowman afterward proposed a minute director (see Ophth. Hosp. Reports for Jan., 1858,) to facilitate the slitting up of the punctum and canaliculus. This director is made of steel, coated with gold by the electrotype process. "It is sufficiently thick in the stem to give it firmness, and one end is reduced to a very fine size, and grooved to within a line of the extremity, which is of the size of a No. 1 probe."

Before receiving a set of Mr. Bowman's probes from London, I had a series of four constructed, the smallest (No. 1) one-third of a French millimetre in diameter, and the largest, one millimetre and one-third. These answered very well; but the fine probes in Mr. Bowman's set are a valuable addition.*

Before proceeding to operate, it is generally easy to determine whether one or both canaliculi are pervious, by the reflux of the tears or pus toward the eye on pressure over the sac, or, if necessary, by the passage of probe No. 2, or No. 1. Where one canaliculus is impervious or strictured, Mr. Bowman advises to operate on the one that is patent, though in this case he slits up both puncta. Where we are at liberty to choose between the upper and lower lid, it is better to select the latter, which is more convenient for the operation, and for the subsequent passage of probes.

During the operation the patient is seated with the head sup-

* Geo. Tiemann & Co., surgical instrument makers, 63 Chatham St., N. Y., have now for sale the probes and director of Mr. Bowman, copied from a set which I imported from Mr. Weiss, of London.

ported against the chest of the surgeon or of an assistant. The surgeon accordingly stands behind the patient, or sits in front, to suit his convenience. Unless Mr. Bowman's director be used, I have found it convenient to introduce the point of a cataract knife in the punctum, and slit it up in the direction of the canaliculus, so as to enable me to introduce a No. 3 probe, and have a larger body as a guide in slitting up the canal. This is sometimes necessary also, even where Mr. B.'s director is used, to admit of its full introduction. The director should be employed when it is at hand, since it affords a better guide for the knife.

In dividing, for instance, the canaliculus of the lower lid, the surgeon everts the punctum with the ring finger of one hand placed upon the skin over the lower edge of the orbit, in which position it can tighten or relax the canal by a sliding movement of the skin upon the bone. The probe or director is introduced into the canal with the opposite hand; then placed in charge of the index finger and thumb of the hand already upon the cheek, and by its being turned downward upon the malar bone, the canal is still further stretched, and the tissues to be divided, rendered tense. These tissues may now be slit up from the punctum as far as the caruncle, by means of a cataract, or any sharp-pointed, knife; and the director is finally raised on its point out of the canal, to make sure that they are all severed.

As soon as this operation is completed, the lachrymal passages may be at once explored with a full sized probe. In passing this through the remainder of the canaliculus, great delicacy of touch should be used, and no force applied, lest the mucous wall of the canal be injured, and obliteration follow. The probe should be made to feel its way, and the surgeon should guide it with care and dexterity, alternately stretching and relaxing the canal if any obstruction be met with. Strictures are most frequently found near the point where the canal terminates in the sac—less commonly about the middle of the canal. If such be met with, they are to be dilated by the repeated passage of the smaller probes, before the sac and duct are explored with the larger. In cases I have met with in which the canal was entirely obliterated near the sac, I have pushed on an exploring canula into the latter, and endeavored to establish an artificial opening by the frequent passage of probes, though I believe such attempts are generally unsuccessful.

The entrance of the point of the probe into the sac is easily recognized by its coming in contact with the inner bony wall, and the feeling that it has passed a contracted point as it enters, if a full sized probe be used, while before it enters, it is seen to stretch the lid toward the nose.

For a few days after the operation there is a tendency to union of the edges of the wound by first intention, and it is desirable to avoid this by separating them daily with a probe. But I usually defer exploration of the sac and duct during this period, waiting till the parts have become less sensitive by the subsidence of the slight inflammatory action which follows the operation.

It has already been stated that the large probes only are to be used for the dilatation of any stricture existing in the sac or duct, and the method of their employment has also been indicated. They are known to have penetrated into the nose by the feeling of the patient, and by the distance they have entered, which is ascertained by comparing the projecting portion with the length of one of the other probes of the set. If the difference between the two amounts to an inch and a half, the nasal cavity has been reached. I usually repeat the passage of the probes every second day at first, afterward twice a week, and finally at longer intervals. For the complete restoration of the passage, the treatment must usually be prolonged from several weeks to five or six months. Marked improvement, however, is generally attained in a short time, and the patient is able, by pressure downward, over the sac, to evacuate the fluids into the nose. Such are the chief points of this operative procedure, described by Mr. Bowman, and confirmed by the experience of others and my own.

In the New York Eye Infirmary the use of styles in the treatment of lachrymal obstructions was *entirely abandoned* five or six years ago. They fell into disuse for reasons which must be evident to any one who has seen much of their employment. They are very unsightly, especially in females; the discharge which their presence excites is offensive and requires to be frequently wiped away; they are liable to cause inflammation and abscess in the neighboring tissues or necrosis of the bones surrounding the duct; their removal for the purpose of cleansing is inconvenient, and their replacement often difficult; they sometimes bury themselves in the tissues and require an operation for their extraction, and the cases in which they effect a permanent cure after being worn for months are few compared with those in which they must be worn permanently.

General hygienic management and constitutional remedies have, for the most part, been the treatment at the Infirmary since the abandonment of styles. The chief constitutional remedies employed are iodide of potassium and bichloride of mercury. A knowledge of the marked benefit to be derived from the use of iodide of potassium in many cases of lachrymal obstruction was gained by accident. A boy, aged 10, applied

at the Infirmary under the care of Dr. Du Bois, to be treated for mucocele. One of the cervical glands was observed to be enlarged. For the relief of this, iodide of potassium was prescribed; and under this treatment the affection of the tear passages rapidly improved and finally disappeared. The happy result in this case led to the employment of the iodide in others, which resulted in an equally favorable manner.

It is not claimed that the treatment of these cases by iodide of potassium and the bichloride is original at the Infirmary, for it is mentioned by Mackenzie and other authors on diseases of the eyes; but more importance is attached to it here than is generally attributed to it, though not more, it is believed, than it fully deserves. It is impossible to lay down rules applicable to all cases, which will enable us to determine which of the remedies mentioned should be employed. Where the disease is of syphilitic origin, the character of other existing constitutional symptoms—whether secondary or tertiary—may indicate whether mercurials or iodide of potassium should be preferred. But even where this origin of the disease is evident or suspected, all other constitutional symptoms may be absent, or both secondary and tertiary symptoms coëxist, and thus the above guide fail. A better indication, therefore, for the employment of remedies, is to be sought for in an examination of the tissues surrounding the passages which were first affected. Where the obstruction is due to chronic inflammation of the mucous membrane, mercurials should be preferred; the origin of the obstruction in the periosteum or bones, as shown by enlargement of these tissues, will indicate the iodide. This rule, however, cannot be considered as absolute. Iodide of potassium is the more frequently employed of the two at the Infirmary, especially in children.* Whichever is used, it must be continued perseveringly for months, and, in the meanwhile, the general hygienic management of the case not be neglected.

Since the appearance of Mr. Bowman's paper, I have tried the local treatment recommended by him in a dozen cases or more, some of which were seen at the Infirmary and others in private practice. The result of this trial has been very satisfactory, only one out of the number failing to be decidedly benefited or apparently cured; and I do not hesitate to say that Mr. Bowman's treatment is the best local treatment in our possession. Dr. Agnew, who has also made trial of this method, concurs with me in the expression of this opinion.

In most of the cases which we have treated by this method, all constitutional remedies have intentionally been avoided, in

* An infant, 4 months old, is now under my care at the Infirmary for obstruction of the tear passages, with reflux of purulent matter.

order better to test the efficacy of local treatment alone; but it is believed that more favorable results can be attained by combining the two. The two chief causes of chronic diseases of the lachrymal passages are a strumous diathesis and syphilis,* and while local treatment may relieve the disease for a time, it would be unreasonable to expect it to be wholly eradicated beyond danger of a relapse, unless the constitutional taint on which it depends be removed.

But let it not be supposed that we are undervaluing Mr. Bowman's treatment by these remarks. It holds as high a place as any local treatment can, in a disease dependent, in the majority of cases, on constitutional cachexia. Experience in its use by many competent observers has shown it to be a very great improvement on the old methods of practice. It will do much to shorten the duration of this troublesome disease, at the same time that we endeavor by constitutional remedies to remove the cause on which the disease depends; and in those not unfrequent cases, in which our attempts in the latter direction are fruitless, our patients may obtain comparative comfort, by the occasional passage of a probe passed through an opening concealed by the lid, in place of the disfigurement and liability to danger attendant upon the use of a style.

We observe that this treatment is still in use and is gaining in favor in London. The *Medical Times and Gazette*, Jan. 1, 1859, thus speaks of it: "The modern treatment of epiphora and obstructions of the lachrymal and nasal ducts is so simple and effectual that it must before long pass to a large extent from the hands of the specialist to those of the general practitioner. The clumsy and ineffectual style has been wholly superseded. The plan is to dilate the stricture. We do not think of making a patient with stricture of the urethra wear a catheter for the rest of his life; neither is the parallel measure needful in stricture of the nasal duct. The occasional passing of a bougie is all that is usually necessary."

Dr. v. Gräfe, of Berlin, "does not hesitate to pronounce Bowman's method the best of all used for the restoration of the lachrymal passages," though he states, what is undoubtedly true, "that cases of caries, organic obstructions, etc., occur, in which there is no prospect for restoration of the continuity, and in which the lachrymal sac should be obliterated," either by

* Mr. Jonathan Hutchinson has recently written an essay, entitled: "On the different forms of Inflammation of the Eye consequent on inherited Syphilis," in which he endeavors to show that "certain cases of tinea tarsi, fistula lachrymalis, and other affections of the ocular appendages occurring in children are of syphilitic origin." (See the Ophth. Hosp. Reports for July, 1858, et seq.) See also a work by M. Lagneau fils, on "Maladies syphilitiques consécutives des voies lacrymales." Paris, 1859.

the actual cautery, or—as may be accomplished after first destroying the canaliculi, according to Tavignot's method—by the milder caustics, (see the *North American Medico-Chirurgical Review*, 1859, page 361). Dr. v. Gräfe gives as the result of his experience in destroying the sac, that "of one hundred patients in whom the lachrymal sac has been successfully destroyed, twenty suffer from permanent and troublesome overflowing of tears; seventy are molested neither at their work nor in the room, but experience increased moistening in the open air, or, if excited to tears, etc.; ten finally do not notice any difference from the normal eye."

The limits of this paper do not allow of the consideration of other local methods of treatment in obstructions of the tear passages; all of them, however, are thought to be much inferior to those now mentioned. It is believed that injections by means of Anel's syringe are often palliative, though seldom curative; and the passage of Anel's probes aims at the same effect as Bowman's method, with a very small chance of attaining it in comparison with the latter; it may be compared to an attempt to permanently dilate a stricture of the urethra with a No. 1 bougie.

274 Sixth Avenue.

ART. III.—*Transactions of the Medical Society of the County of Kings. For October, November, and December*, 1858. Reported by a Committee of Publication.

OCTOBER.—*Large encysted tumor removed from the anterior region of the neck.*—Dr. C. E. ISAACS presented to the society a specimen of a large encysted tumor, which he had recently removed from the anterior region of the neck. After giving a description of the anatomy of this region, illustrated by injected specimens, plates, and diagrams, he proceeded to read the following paper:

I was consulted lately by an unmarried woman, at twenty-five, on account of a tumor situated in the anterior region of the neck. On examination, I found it to be about the size of a goose egg, extending vertically from the upper margin of the thyroid cartilage to the top of the sternum, and laterally about an inch to the right, and two inches to the left, of the median line. On superficial observation, it much resembled goître, but on closer inspection, it was evidently a large cyst, containing a fluid, and bound down strongly by the parts, which lay over it, but yet possessing a distinct mobility. She informed me that she had first perceived a small tumor, about three years ago, and that since that time it had slowly but steadily

increased. A few weeks previously to her consulting me, she had been to a surgeon, who punctured the cyst, and discharged several ounces of a watery, chocolate-colored fluid, apparently mixed with coffee grounds. After this, the tumor increased rapidly. She then consulted another surgeon, who made a small incision into it, drew off the fluid, and applied caustic (nitrate of silver?) to its interior. This application was also followed by a rapid enlargement of the tumor. As this produced considerable pressure upon the larynx, trachea, and great vessels of the neck, she suffered much from frequent headaches, and occasionally difficult or embarrassed respiration. I explained to her that two methods might be adopted—one which in all probability would merely be palliative, although sometimes successful; the other was the entire removal of the cyst, which would be attended with much difficulty and danger. She expressed her readiness to submit to any plan which I might determine to be the best.

Accordingly, on the 7th August, the patient having been placed under the influence of a mixture of chloroform and ether, I proceeded to operate. I was very kindly and ably assisted by Drs. Bell and Kissam, surgeons of the Brooklyn City Hospital, and by Drs. Cunningham and Tinsley, house-surgeons of that institution. I determined to expose the cyst fairly by an incision, and then either simply puncture it, and draw off the fluid, and inject with the tincture of iodine, perhaps also removing a portion of the cyst at the same time; or if this plan should not seem to be expedient, then to make an attempt to extirpate it, if this should appear to be practicable—in a word, to be guided in the choice of the operation by the condition of the parts when fairly exposed. Accordingly, I made a vertical incision, about an inch and a half in length, through the integuments covering the tumor, and about an inch to the left of the median line. The integuments, platysma, sterno-hyoid, sterno-thyroid, sterno-mastoid, and deep cervical fascia, which were spread over the surface of the tumor, and strongly bound it down, were carefully divided. By then separating these parts carefully from the tumor, and drawing them to each side, I exposed fairly the naked and polished surface of the cyst. It was then ascertained, that by following closely the surface of the tumor, and by using the handle of the scalpel and the points of the fingers, aided by occasional touches with the knife, that the anterior and lateral portions of the tumor could be enucleated.

I could also pass my finger around the sides of the tumor, and reach its posterior surface, and was thus enabled to form such an opinion of its nature and connections as determined me

to proceed with the operation, with a view to its complete removal, if practicable. Accordingly, I now enlarged the external incision upward as far as the superior margin of the thyroid cartilage, and downward to the top of the sternum. It was now perceived that the posterior surface of the tumor reposed upon the carotid artery and jugular vein, and was adherent to the pharynx, œsophagus, larynx, and trachea. The lower end of the tumor could be traced with the finger, behind, and apparently nearly an inch below, the top of the sternum.

The arteries supplying the tumor were inconsiderable, but the veins returning its blood were numerous, and some of them of large size passed into the internal jugular. Those from the lower part of the tumor apparently entered the great transverse vein. As the greatest danger was to be apprehended from the division of these veins, not only from hemorrhage, and the difficulty of securing them afterward, but more especially from the entrance of air, *I cautiously insulated each vessel, and applied ligatures before dividing it.* The finger was now passed underneath the lower end of the tumor, which was lifted up out of its bed, behind the upper portion of the first bone of the sternum, the pleura being on each side of the tumor, as could easily be seen by the rising and falling of the apex of each lung during the acts of respiration. The deep-seated veins which returned the blood of this lower portion of the tumor, were carefully ligatured before division, and then its remaining attachments to the large vessels, œsophagus, larynx, etc., were cautiously separated. Much care was necessary to avoid injuring the recurrent laryngeal nerve, which adhered to the side of the tumor. On now examining the deep cavity of the wound, the carotid and internal jugular were exposed to the extent of nearly three inches. *The finger could be passed behind the upper portion of the sternum so as to feel distinctly the transverse portion of the arch of the aorta, and the origin of the arteria innominata, and of the left carotid; also the trachea, where it lies in the angle formed by the divergence of these two great arteries, at their origin, from the aorta.* The hemorrhage, during the operation, was inconsiderable, amounting perhaps to five or eight ounces. The wound was closed by interrupted sutures and a few adhesive strips. For three days afterward the pulse ranged from 120 to 140, skin hot, tongue furred, great thirst, severe headache, paroxysmal difficulty of breathing, and especially of swallowing, pain in the back and limbs, etc. The voice was reduced to a mere whisper. On the fourth day, all the symptoms were much more favorable, and from that time the patient continued to improve. At the

conclusion of the operation, it was ascertained that the tumor or cyst which had been removed had no connection with the thyroid gland. On laying open this cyst, it was found to be of the consistence and thickness of ordinary buckskin, and composed of fibro-cellular tissue. Incorporated into its substance were two lymphatic glands, about the size of a small almond. The interior of the cyst was rather rough, possessed no epithelium, and resembled somewhat the interior of the left ventricle of the heart—having a partially columnated appearance. It contained a layer of old and organized fibrin.

From the structure and thickness of the cyst, it was, I think, sufficiently evident that nothing short of complete extirpation would have effected a radical cure. The fluid it contained was of a dark brownish red color, and contained many small black clots of blood. Examined under the microscope, it exhibited myriads of imperfect and numerous rounded cells, of various size, with large nuclei.

It is now two months since the operation was performed. The wound has entirely healed, and the patient is perfectly well with the exception of some slight hoarseness, which however is gradually diminishing, and after a few months will probably be completely removed.* I attribute this condition of the voice to the fact, that the recurrent laryngeal nerve had been put greatly upon the stretch by the tumor, to which it closely adhered, and to its detachment, and consequent inevitable relaxation of its fibres, and novel situation, at the time of and subsequent to the operation.

I may here mention, that I had the satisfaction of showing the patient, after her recovery, to Dr. Mitchell, President of the Kings County Medical Society, Dr. Mason, Smith, and several other physicians.

NOVEMBER.—*Dislocation of the ulna upon the humerus, without dislocation or injury of the radius.*—DR. ISAACS reported the following interesting case of dislocation: The patient was a boy thirteen years of age. The coronoid process was thrown backward, into the posterior sigmoid fossa of the humerus, while the olecranon process projected backward and upward. The forearm and hand were twisted inward. On the posterior and lower part of the arm was a deep depression, into which the hand could be sunk; although there was evidently great deformity about the joint, the swelling was moderate in extent. Chloroform was administered. Liston and Cooper's plans of reduction were both unsuccessfully tried. The arm was then

* I have just learnt (April 8th, 1859) from the relatives of the patient, that she is quite well—the voice is now perfectly natural.

firmly fixed by an assistant, the left hand of the operator was strongly applied against the forearm, at the elbow, in order to press the coronoid process backward, and outward. The forearm being now suddenly flexed, the dislocation was instantly reduced.

Dislocation of the first phalanx of the fore-finger, upward upon the metacarpal bone.—Dr. Isaacs reported the following case: The patient was a boy about twelve years of age. Unsuccessful efforts had been made for its reduction. He placed the boy under the influence of chloroform, extension and counter-extension were used, while an effort was made to flex the joint. This proving unsuccessful, he grasped the affected hand with his left, so as to make firm counter-extension, then seized the finger with his right hand, and extended it strongly, at the same time pressing with the thumb firmly upon the head of the dislocated phalanx; while making pressure, the finger was suddenly flexed, and the bone was instantly reduced.

Whooping cough in adults.—Dr. Mitchell reported the occurrence of whooping cough in adults, of whom an unusual number were affected, and in some instances for the second time.

In two of these cases the cough was of great severity, and in no degree alleviated by ordinary remedies. Tartar emetic, lobelia, prussic acid, opiates, belladonna, etc., with counter-irritation, were liberally used.

In one of these, a lady thirty years of age, the coughing fit was followed with such spasm of the muscles of the larynx as to threaten suffocation, and gave rise to some uneasiness as to the result. These spasms were entirely different from the whoop, during the paroxysm.

Both these patients were directed to drink an ounce of strong coffee without milk, every two hours, and within twenty-four hours the symptoms were so far relieved as to render further medical attendance unnecessary.

Peculiar cerebral symptoms depending upon excessive sexual indulgence.—Dr. Isaacs also related the following case: A man, of naturally strong and muscular frame, and good constitution, came to consult him, stating that he had always been perfectly healthy, up to the 1st of January, 1858, when he married. He seemed to have been under the impression, that his only duty was to give himself up to sexual intercourse, and he accordingly indulged in excessive venery, to an almost incredible extent. At the end of two months he became exhausted, and among other difficulties became, to a considerable degree, amaurotic. He was under the charge of some of the most talented and experienced oculists in New York, for three

months, without deriving (as he said) the slightest benefit. He had been cupped, leeched, blistered, and had taken mercurials, iodide of potassium, quinine, iron, and indeed almost everything that can be used in such cases, yet he remained the same. Dr. Isaacs introduced a thread seton in each temple, and administered nux vomica; afterward a blister was applied to the back of the neck. His general health seemed improved, but his eye-sight was not benefited. It was ascertained that one eye had become long sighted, and the other short sighted; the reading distance of one being four feet, and that of the other but one foot. He had flashes of light before the eyes, and was troubled with dark spots floating in his vision. The button cautery was applied—the instrument being made of the small, *new* United States cent, or penny, attached by an iron stem to a wooden handle. The cent was heated in a spirit-lamp, and rapidly and lightly applied upon the back of the neck, in perhaps twenty places, passing from above downward. It had the effect of reddening and blistering the skin at the point of contact, but did not char it in the manner of the actual cautery. *It is a curious fact, that for five minutes after the application of the iron, he informed me that he saw everything as clearly and distinctly as he ever did in his life*; but this effect was transitory. He was now put upon a solution of strychnine, in phosphoric acid, of the strength of one grain to the ounce of acid—ten drops, ter in die, gradually increased. Under the influence of these remedies, the focal distances of the eye are changing—the reading distance of the long-sighted eye becoming shorter, and that of the short-sighted eye becoming longer, and thus approaching toward the same focal distance. The muscæ volitantes are diminishing and the general health is considerably improved. He has given up sexual intercourse entirely. There is no evidence of seminal loss, and no tenderness or irritability of the urethra, bladder, or prostate, is revealed by symptoms, or on the introduction of a catheter. In the discussion, Dr. Marvin remarked that he had found strychnine dissolved in phosphoric acid, to be a powerful tonic, and thinks it the best medicine in cases like that just stated. He had used it with benefit where there was a local want of nervous power, as in cases of atonic dyspepsia. On examining a solution of strychnine in phosphoric acid, he found that the whole of the strychnine was not dissolved, and on stating this objection to the apothecary, Mr. Davies, suggested the use of the acetate of strychnine in phosphoric acid, as being more soluble. Dr. Marvin thinks this a better preparation, as more strychnine is present in the same dose.

In cases of spermatorrhea, Dr. Landon had applied the diluted citrine ointment to the urethra, by means of a sound, with utility.

Dr. Mitchell suggested ergot as a most useful remedy in such cases. He gives three grains of ergotine every three to six hours, in form of pill.

Dr. Isaacs has used a mixture of tincture ergot and tincture of lupuline, equal parts; dose, a teaspoonful three or four times a day. In some cases of a scrofulous constitution, he has found the nitrate of silver either useless or injurious. He then applies instead, the citrine or blue mercurial ointment, calomel ointment, solutions of acetate of zinc, or sulphate of copper. Some cases obstinately resist all the usual remedies, and are then found to depend upon ascarides in the rectum.

Hemorrhages—Treatment by styptics.—Dr. Cook had met with some cases of intestinal and other hemorrhages, in which he had used most successfully a styptic, recommended by Dr. Warren of New York. It consists of

Sulphuric acid, ...	ʒv.
Spirits of turpentine, ...	ʒii.
Alcohol, ...	ʒii.

The turpentine is slowly mixed with acid, the alcohol is then added, and the mixture put into a glass-stoppered vial. When the fumes cease to rise, the stopper is put in, and the mixture is ready for use—dose, forty drops. This is rubbed up with sugar and then mixed with a teacup of water, and administered. A second dose may be given one hour after the first, and a third two hours after the second. Dr. Cook has used this remedy in almost every variety of hemorrhage. He has not found it to fail in a single instance of hemoptysis, or of uterine hemorrhage. In one case of severe bleeding from the lungs the hemorrhage was stopped almost instantly after the first dose.

Jaundice—Treatment.—Dr. Cook also stated, that he had seen a number of cases of jaundice, and thinks it prevalent. In reply to a question as to treatment, he said that he was accustomed to commence with an emetic, and followed it up with blue pill, and then put the patient upon the use of tincture of sanguinaria.

Dr. Marvin considered the blue pill as of very great utility in such cases.

Dr. Isaacs had often used it with benefit, applying cups, or leeches, and sometimes sinapisms or blister, over the epigastric region, when tenderness existed there. He once had an opportunity of seeing an endemic of jaundice, on a large scale,

when he was in the United States army. The government removed the Cherokee Indians from the States of North Carolina and Georgia to Tennessee. They were taken from a mountainous country and free-stone water, where they were living on game and whatever they could cultivate, down into the valleys of the Tennessee, where the water was limestone, and they were placed upon government rations. In a few weeks nearly all became more or less affected by jaundice—hundreds at a time. In many the yellowness was as deep as that of an orange. He does not think that the treatment had any influence whatever; the disease seemed to run a regular course, terminating in from three to six weeks. They generally complained of heaviness, drowsiness, headache, and want of appetite. In some of the worst cases the appetite was as good as ever—and in one prominent case, in which it was constantly indulged to excess, the patient recovered like the rest—no deaths occurred. In this endemic the whites were not affected—hard eggs had been lately recommended.

Dr. Mitchell stated that he had known lemon juice to act favorably after the early stage of the disease.

Irritability of bladder in pregnancy.—DR. MITCHELL related an instance of distressing irritability of the bladder, during pregnancy, confining the patient to her bed and interrupting her sleep. Prompt and permanent relief was procured by the administration of tincture of belladonna.

Hemorrhoids—Treatment.—DR. MITCHELL also referred to a case of hemorrhoide that had for two years resisted every variety of treatment, finally exhausting the patient by their bleeding, and greatly restricting her necessary exercise, and seriously undermining her health. By the use of pills of pitch she was completely relieved.

DECEMBER.—*Pruritus vaginæ—Its causes and treatment.*—The subject of pruritus vaginæ was introduced by DR. BELL, for the purpose of eliciting experience on the local application of chlorate of potash in that disease, he having lately prescribed this remedy with benefit. The general expression of opinion concurred in the belief that pruritus vaginæ depends upon functional derangements of the uterus, or congestion of the os and cervix uteri, and most likely to occur during pregnancy. The local applications named as of most benefit, particularly in cases of pregnancy, when constitutional treatment is restricted, are glycerine, solutions of tannin, two scruples to the ounce, cyanuret of potassium, half a drachm to half a pint of water, and solutions of prussic acid. An obstinate case in a pregnant woman was relieved by the application of elder-flower ointment, mixed with trisnitrate of bismuth. Ice-cold water

is a common and often an effectual means of alleviation. Solutions of nitrate of silver, sometimes as high as forty grains to the ounce, have been applied to the affected parts with decided efficacy. Some cases are caused by ascarides, when treatment should be directed accordingly. An enema, composed of equal parts of quassia and wormwood, has been found effectual in removing these worms; but in one extremely obstinate case, reported by Dr. Isaacs, where the simple infusion failed, the addition of common salt and tincture of camphor was attended with perfect success.

Case of albuminuria with unusual symptoms.—Dr. Landon reported a case of albuminuria, accompanied with, or declared by unusual symptoms, sick headache of great severity, occurring at intervals of from six to ten days; excessive prostration and slow pulse—only forty-eight. The patient has much improved on constitutional treatment, calomel and tincture of bark, and the application of cut cups, over the region of the kidneys. The headaches are less severe, and the interval between the attacks longer. The quantity of albumen in the urine is also decreasing. The opinion was elicited, that in this case the headaches indicated threatened effusion.

Prevailing diseases.—Severe cases of "sore throat" were reported, without other morbid tendency. The aspect of these cases is: dusky red color, enlarged tonsils, covered with white exudations easily removed—extreme painfulness of the part, and but little constitutional disturbance. One case, however, has been accompanied by delirium at night, and total inability to swallow. Influenza with sore throat is prevalent and increasing. In most cases there is considerable fever, and in some, delirium at night. Scarlatina is also prevalent, and believed to be increasing. One fatal case reported by Dr. Dudley lived five days after suppression of urine.

Dr. Marvin referred to a case which occurred several years ago, where the patient lived longer than five days after total suppression of urine, but who just before death passed a small quantity of black urine.

Dr. Mason reported a case of recovery after suppression of urine for an uncertain length of time, consequent upon scarlatina. The child being convalescent, was suddenly seized with convulsions. Treatment by strong counter-irritating liniments, containing turpentine, applied over region of the kidneys, mercurial purgatives, nitre and digitalis. After twelve hours *black* urine was passed. The secretion became gradually lighter, and the patient recovered. Six cases of erysipelas were reported.

Pneumonia of an intermittent type, the exacerbation coming on about midnight, and the fever running so high as to occasion

delirium, has been noticed by several members, but Dr. Mitchell, in particular, has had a number of cases, and requests particular attention to this type of disease.

There were reported five cases of erysipelas, six of chicken pox, one of varioloid, and seven of scarlatina. Phthisis is deemed to be unusually prevalent.

Hepatic derangement with neuralgia, is unusually common in all diseases. In the treatment of the diseases reported, the benefit of quinine in erysipelas was particularly dwelt upon. Neuralgia was stated to be a common symptom of hepatic derangement, and therefore more effectually treated when remedies were directed to the functions of the liver.

Case of diphtheria affecting the faucial, palatial and nasal mucous surfaces, with peculiar derangement of nervous functions—By JAMES CRANE, M.D.—Mr. T——, aged 17 years, resident in Washington Avenue, returned from a visit in the city of New York, on the evening of the 10th of March, 1854, in his accustomed good health. On the 11th, he was attacked with chill, followed by pain in the head, back and extremities, by general malaise, and the usual prodromata of influenza, which was a prevalent disease at that time. I was called to visit him on Monday the 13th of March. There had been no reactive fever since the chill. The countenance was pale; tongue slightly coated; the voice thick, and its utterance indistinct. The glands and cellular tissue of the neck on the right side were much swollen. Swallowing was difficult and painful. Pulse 90, and surface cool. Upon inspection, the faucial mucous membrane was congested. The tonsils were slightly enlarged, with ashy fawn colored deposit upon their surfaces. Directed ol. ricini ʒss., to be taken at once.

℞ Nitratis argenti (crystals) gr. xl.
Aquæ distillatæ, ʒj.
Fiat solutio. To be applied over fauces and tonsils.
℞ acetum, 1 pint.
Infusionis salviæ officinalis, 2 parts.
Fiat gargarisma. Frequently.
Tinct. iodini, externally.

14th.—The general condition of the patient remains the same. The bowels had been freely evacuated. The external swelling of the glands continues unchanged. The diphtheritic deposit upon the tonsils is now complete, and is extending to the surrounding parts. Deglutition is difficult, and the voice very indistinct. Continue the gargle and sol. nit. argt. to fauces, and tinct. iodine externally.

15th.—The fauces are covered with false membrane. The external swelling is decreasing. The general symptoms are the

same. Same treatment continued. Beef-tea is ordered for nourishment.

20th.—Since the last date, the external swelling of glands has subsided. The diphtheritic deposit has extended over the entire fauces, the uvula, which is from 1½ to 2 inches in length, and forward over the palatial arch to the extent of *one* inch. Deglutition is still very difficult, and the voice very indistinct. The tongue is clean; face pale; pulse 90, and feeble. Directed wine-whey and beef-tea for nourishment. As the sol. of nit. argt. did not in the least modify the condition of things, its use was now suspended.

25th.—There has been no further extension of disease over the mucous membrane of the palate. The posterior fauces are free from deposit of membrane. The membrane upon the palatial arch is loose and detaching *itself*; a portion, an inch square, was easily removed, of the thickness and appearance of ordinary buckskin, firm and not easily torn. The surface beneath presented a congested appearance, studded with numerous dotted, bloody points, showing an effort at organization of the membrane. Other symptoms remain the same. Directed a generous diet. Beef, eggs, oysters, ale, etc., etc.

March 31st.—Yesterday vision was unimpaired. This morning he is unable to read his newspaper as usual. He sees objects at a distance distinctly; with glasses belonging to his grandmother (a lady about 70 years of age), he reads with ease and comfort. The voice is still indistinct, and very like that of a person having a cleft palate. Deglutition is difficult, and unless it is performed slowly and cautiously, liquids are rejected through the nostrils. Tongue clean; appetite good. Bowels regular, and secretions healthy. The patient is steadily losing in flesh and strength. The glands on the right side of the neck are again swollen and enlarged. Directed quiniæ sulphatis gr. ij. every six hours, with generous diet. Also tinct. iodini externally.

April 1st.—Upon inspection of the mouth and fauces nó trace of membrane is to be found. The patient is blowing fragments of false membrane occasionally from the nostrils. Upon examination, it is found within the nostrils, and extending over the mucous surface to its juncture with the true skin. The patient is this morning affected with presbyopia.

April 10th.—No trace of false membrane is to be discovered. The fauces are natural in appearance. The external swellings of the glands has subsided. Deglutition remains the same, and the voice unimproved. A dry, unproductive and troublesome cough has supervened. Presbyopia still continues with emaciation and loss of strength.

April 22d.--Presbyopia ceased as suddenly as it supervened. This morning vision is perfect. Deglutition and voice unimproved. Debility and emaciation increasing. Cough continues. A careful exploration of the chest reveals no signs of disease. The evidence of defective innervation is still accumulating. The powers of locomotion are now impaired. Patient's limbs totter beneath him, and his gait is reeling and unsteady. Ordered generous diet, wine, ale and passive exercise in the open air. Suggested also a change of climate.

May 3d.—The patient was visited by Dr. Buck, of New York. The throat and chest were carefully examined, but no disease was discovered in these regions. Iodid. potassii was ordered internally in connection with daily inhalation of the fumes of cinnabar. These remedies were continued until the 10th of May without benefit to the patient, when he left by steamer for Richmond, Va. Mr. T—— returned from the South, after an absence of six weeks, improved in all respects. After a summer spent in rëcreation among the mountains of Pennsylvania, his health was fully reëstablished.

In reviewing this case some points of interest present themselves:

1st. The fortunate extension of this disease, in its local development, upward into the faucial, palatial and nasal mucous surfaces. Had the larynx been implicated, the danger would have been vastly increased, the chances of recovery resting upon the doubtful results of an operation.

2d. From observation in this case, the period at which false membrane would seem to detach itself, is on the fifth day.

3d. The peculiar lesions of the nervous centres manifested themselves in the disordered functions of innervation and nutrition. Of these, the most singular and unaccountable was the sudden impairment of vision, commencing April 1st, three weeks after the invasion of the disease, and ceasing on the 22d as suddenly as it supervened.

We deduce the following propositions:

1st. Diphtheria is a specific essential disease per se.

2d. It is asthenic in type, presenting no tendency to reaction from its onset to its termination.

3d. Its primary devolopment is upon the mucous membranes.

4th. Its secondary effects are principally manifested in perverted and disordered special and general nervous functions.

5th. As to its remote or proximate causes and true pathology we are yet in ignorance.

ART. IV.—*On Auscultation of the Voice.* By J. HERZKA, M.D.

THE voice is physiologically the effect of an expiratory act. Acoustically it is the result of a shock which the condensated expiratory air receives at the rima glottidis.

The expiration for the utterance of a vocal sound differs, nevertheless, from the expiration of the purely respiratory purpose. The former is primarily a voluntary act of the expiratory muscles; the latter is initiated by the involuntary contraction of the air-cells. In the former, the contraction of the air-cells follows the muscular compression of the thorax; in the latter, the muscular coarctation of the thorax takes place consequent upon and forced by the primary contraction of the air-cells. In the former, there is no opportunity given for the formation of a vacuum within the thorax; in the latter, on the contrary, the same chances exist as during inspiration. During inspiration, the thorax is widened through muscular action, a vacuum is thus formed between the expanded limits of the thorax and the lungs, in consequence of which these are inflated to the extent of the vacuum. During expiration the same takes place in an inverse order. The lungs collapse through the contractility of the air-cells, then again a vacuum is formed between the retracted lungs and the still expanded thorax, so that the latter is forced by muscular action to follow the retraction of the lungs.*

* This analysis of the mechanism of the respiratory acts, fully discloses the fallacy of that still ruling opinion, that normal respiration influences the circulation in so far as at inspiration, through the vacuum formed in the thoracic cavity, the centripetal current is accelerated, and the centrifugal current retarded, and that at expiration through the compression of the thoracic cavity the arterial circulation is accelerated, and the venous circulation retarded. It was shown that during normal respiration a vacuum is formed in the thoracic cavity at expiration as well as at inspiration, and that consequently there is no room for the difference of effect on the circulation on that account. If the thorax pumps the blood from the blood-vessels into the heart during inspiration, it must do the same during expiration. Only when after completed normal expiration we still continue forcibly to compress the thorax, or if under the influence of pain, we breathe with a certain force, to give utterance to the sensation of pain, or if the contractility of the air-cells is diminished to a degree, that to satisfy the natural want of expiration, we compress the thorax, to make up the deficiency in the contractility of the air-cells, then certainly will the effect of such expiration on the circulation be such as the physiologists claim for it in general, *i. e.* acceleration of the arterial and retardation of the venous current.

The same takes takes place *sub nisu*, that is, if after an inspiration we close the glottis, making at the same time expiratory efforts by compression of the thorax. It is well known that this modus operandi is the only way in which we can at will diminish the arterial pulse and the stroke of the heart, as every one can try for himself. The cause of such influence on the pulse is, that the pressure of the thorax prevents the venous blood from being discharged into the right ventricle, whereby the supply of the left ventricle by degrees is cut off, the heart is compressed, nothing can come in to expand it, and consequently there can be no systole. This fact is further historically remarkable, as its discoverer, the very celebrated

If in one breath, that is after one inspiration, we utter a series of vocal sounds by speaking a whole sentence, we make a gradual expiration, *i. e.* a gradual compression of the lungs through the action of the expiratory muscles till the compression reaches a certain degree, when a fresh supply of air is drawn in by a renewed inspiration. In regard to such gradual action, another difference is to be noticed between the two kinds of expiration. In respiratory expiration, where the initiative is with the air-cells, which give away to their contractility, the whole mass of such cells must act contemporaneously and in harmony. They all must do the same thing at the same time, as they follow the same inciting cause. The action pervades the whole of the lungs at once, and it is made gradual only in so far, as each and all of the cells contract gradually. Not so in vocal expiration, where the cells are more passive, subject to muscular compression, and those cells which are most exposed to the muscular action are the first to be compressed, to be then followed by others next in order to be brought under muscular action, and the expiration is gradual in so far as one part of the lungs follows the other in being compressed. During respiratory expiration all the cells are to be met at every stage in the same phase of contraction, and there can be no difference between the upper and the lower, between the anterior and posterior, and between the peripheric and central parts of the lungs. On the contrary, during vocal expiration one portion of the air-cells may be yet fully expanded when another is already compressed to a certain degree, and the more peripheric parts must precede the central ones, the inferior part, placed beneath the most movable section of the thorax, will come sooner under the action of the expiratory muscles than the superior lobe, and the anterior part will hold the same relation to the interscapular portion. Thus, if after one inspiration a series of vocal sounds are uttered, each of them will in fact issue from a different part of the lungs.

A further difference between respiratory and vocal expiration results in the following manner: the right lung is larger and broader than the left one. In respiratory expiration, where the propelling power for the air is in the contractility of the air-cells, the velocity with which the air escapes from the lungs is the same for the right and the left alæ. For if the

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physiologist of Leipsig, Ernst Heinrich Weber, nearly fell a victim in experimenting upon himself on the subject. He became palsied, and it was with some difficulty that he was rescued.

In disregarding this distinction between physiological and pathological expiration, have the physiologists been misled to false conclusions from their manometrical experiments, which are connected with vivisections where the animal breathes most unphysiologically, and can therefore offer no proof for normal respiration.

right ala contains so much more air as it is made up of so many more air-cells, it possesses of necessity so much more propelling power, so that the mass set in motion is increased in the same ratio with the moving force, leaving thus the velocity unchanged. But in vocal expiration the propelling power is mainly with the expiratory muscles which power is alike for the right and left half of the thorax, so that the muscles on the right side, without more force than on the left, have to act on a broader expanse of air-cells, that is, on a larger bulk of air, and must therefore propel the same with less velocity. The current of air in vocal expiration must consequently be more rapid in the left lung than in the right one.

Ultimately, if a certain amount of muscular compression of the thorax is required for the utterance of a vocal sound, there is a margin left for differences in the rapidity of this expiratory current. Not all persons will use the same degree of pressure combined with the same suddenness for the production of vocal sounds. Not all persons speak with the same expenditure of muscular strength, which will correspond in a certain measure with the particularities of the mind, and the frame, and perhaps even of habit. So that the expiratory current in vocal expiration will be more rapid in some persons than in others, when the expiratory current of the respiratory expiration might not exhibit any difference of rapidity.

I have dwelt upon these preliminary remarks—which may at first sight be considered as mere niceties—because they contain the elements for the settlement of several points on which Skoda has bestowed but a passing notice. He says in his "Treatise on Percussion and Auscultation," 5th edition, page 43: "In the normal condition of the lungs one hears over the thorax of some persons, no voice, but only a murmur, which is strongest between the scapula and the vertebral column, less strong under the clavicle, and which vanishes by degrees at the lower parts of the thorax. In some persons, though with a deep voice, the same is in the normal condition of the lungs; strong and moderately clear between the scapula and the spinal column—very seldom with a distinct articulation—in some persons with a high voice, it is weak and clear.

"Less strong and clear than between the scapula and the spinal column, the voice appears in the normal condition of the lungs of some persons below the clavicle, and still weaker and duller in the arm-pits. The strong and clear voice appears not seldom in the normal condition of the lungs, only on the right side in the heretofore mentioned localities, while on the left side but a murmur is to be heard. On the left side alone the strong and clear voice is never to be met with in the normal

condition of the lungs. Over the rest of the circumference of the thorax one hears in the normal condition of the lungs in all persons, no voice, but merely a murmur, or nothing at all."

The facts brought here to notice by Skoda, in a somewhat promiscuous manner, can be enumerated as follows:

1st. In the normal condition of the lungs, we hear on all persons over the whole thorax, with the exception of the interscapular, subclavicular and axillar space, merely a murmur or nothing at all.

2d. In the normal condition of the lungs, this murmur is generally heard stronger in the axilla, still stronger in the subclavicular, and strongest in the interscapular space.

3d. In the normal condition of the lungs, we hear sometimes in these three localities, with the same gradation, a more or less strong and clear voice, which is stronger in persons with a deep voice, less strong in persons with a high key.

4th. In the normal condition of the lungs, this strong and clear voice of these three localities is sometimes to be met with only on one side of the thorax, and in that case always on the right side, never on the left side alone.

Wintrich dwells upon the same facts with still more particularity. He says ("Krankheiten der Respirations Organe," p. 129): "The heretofore-mentioned murmur over the regions of the thorax, where the vesiculous, air-containing, healthy parenchyma of the lungs lies, is, as generally well known, not alike strong in all places, or in all persons, or in every key of the voice. And sometimes it is not to be heard at all.

"Between this just mentioned unarticulated murmur, and the intensity of the comparatively still very distinct articulation of the laryngophony and tracheophony, there are in several places over the thorax of healthy persons intermediate degrees, which the authors have designated by bronchophony.

"This bronchophony is still more indistinctly articulated than the laryngophony and tracheophony, and has also less intensity than the latter, till it passes over by degrees to a mere murmur and ultimately vanishes entirely.

"This gradation from plus to minus keeps within the following order of the different regions: the side regions of the neck, the five lowest cervical, and the four uppermost dorsal vertebræ, the interscapular space along side of the vertebral column in its superior half (on the right side, mostly without an exception, stronger than on the left), the regio supraspinata, the region below the clavicles to the extent of several centimetres downward, more toward the sternum (again mostly stronger on the right side than on the left). In all other parts of the chest the voice changes to a mere murmur or vanishes entirely.

"I have found that in persons with a high key the here mentioned bronchophony is more seldom and less strong than in those with a deep key, but that in the former it is more distinctly articulated.

"The murmur keeps within the same order of gradation of intensity in regard to the different regions of the chest like the bronchophony, but it is generally heard over the whole thorax where the healthy lung underlies, at least in persons with a deep voice. It appears weakest, though, toward the inferior border of the lungs, and there again weaker posteriorly than in front. If a person speaks in a high key even the murmur disappears in the majority of cases in the lower regions of the chest, at least posteriorly; still, not always so."

Here, then, we find what seems to be a capricious versatility in the closest proximity with an unbending consistency. But both come within the province of nature, and where there is nature, there is nature's law, and where there is law there must be a principle. And what is the principle upon which the above enumerated facts are founded? Which is the law of natural philosophy to explain them? Why do we hear the voice over the thorax, once not at all, once as a weak murmur, once as a strong murmur, here as a weak but distinct voice, here again as a stronger but less distinct voice? Why do we hear it in one person different in strength, and distinctness from another? Why do we hear it sometimes on both sides of the thorax alike, at other times different in intensity on the one side from the other? So much for what seems to be capricious versatility. On the other hand, why is there always that strict regularity, that if a difference in the strength of the auscultatory voice exists between different regions of the thorax, it is always in favor of the upper region compared with the lower, and of the posterior part compared with the front? Why the same favor for the voice in a deep key compared with the high voice? And ultimately, why that rule without an exception, by which the voice is heard stronger on the right than on the left side, whereever there is a difference between the two sides in the healthy condition of the lungs?

Skoda stops at the mere record of these singular facts. Wintrich winds up by saying (loc. cit.), "from the previous explanations the reader will not find it difficult to discover the cause of such a state of things;"—but, when in the following passage he goes on to point out in particular that cause, which he confidently hopes the reader will discover without difficulty, we find that he confines his endeavors to an explanation, why the voice is heard less strong and clear over the lungs than over the larynx and trachea, leaving all the auscultatory differences

between different regions of the thorax, between different persons and between different keys of the voice as well as between the right and left half of the thorax entirely untouched.

I have said above, that the preliminary remarks of this communication pointing out some differential features of the vocal expiration compared with the respiratory expiration, will help to answer these questions, which Skoda and Wintrich have left unanswered; but before I go on in that direction, I must state that there are two more questions awaiting with those just quoted, that a cause founded upon sound principles of natural philosophy should be allotted them. The first of these two questions arises from the well known fact that—to use the words of Skoda (loc. cit.)—"In the abnormal condition of the respiratory organs there is no spot on the whole of the thorax, where the voice could not be heard strong and clear." What, then, is the physical cause of such difference between healthy and diseased lungs?

The last and the most striking of these two questions springs from the following experiment: Another person speaks through a tube into the larynx or trachea of fresh calf's lungs; I auscult over these lungs and I hear all over, the sound of the voice transmitted through the larynx or trachea strong and clear, at least stronger and clearer as is generally the case over healthy lungs of living persons. Over and over again I repeat this experiment, changing the lungs again and again, still the same result is obtained, and I ask for the cause. What physical principle constitutes such difference between lungs that speak, and lungs that are spoken into?

Although the experiment just mentioned is so easily performed that it can be readily tested by any one who has a wish to, I still consider it advisable to refer to such authorities as Skoda and Wintrich, who have both tried the same experiment, the one on human, the other on calf's lungs, and obtained a like result with myself.

Skoda says, page 59: "If we experiment on lungs taken out of the cavity of the thorax, the strength of the voice over the normal portion of the lungs can come near the strength of the voice which during life was heard over that part of the thorax which corresponds with the diseased portion of the lungs. The result is not different, if instead of speaking through a tube in the larynx, a sound similar to the human voice is there produced by blowing in the larynx with its glottis in a state of coarctation."

Wintrich says, page 128: "Far better and more do I hear over the larynx and trachea the vocal sounds conducted therein, when on lungs of a killed animal I speak in these parts through

a tube. . . . . From the same cause do I hear the words spoken in such a manner as the bronchial tubes and the parenchyma of the lungs over the whole surface of that organ, very clear and articulated, although spoken in a low voice. . . . . Nay, even through different and more bulky layers than the most muscular and the fattest persons have over their lungs; for instance, through the whole of the thoracic walls of the calf, I succeed in hearing over such lungs the words spoken into the trachea and larynx with distinct articulation, although somewhat weaker."

These experiments of Skoda, Wintrich, and myself, not only coincide with each other in their results, but they are also in harmony with similar other experiments, which I made with regard to the respiratory sounds transmitted in the same manner into the parenchyma of the lungs, and for which experiments—strangely enough never thought of by Skoda and Wintrich—I refer to a previous communication of mine in the March number of this Journal, "on the respiratory sounds." (Page 226.)

The fact, that in certain pathological conditions of the lungs the voice is heard stronger and more clear over the thorax of the person who speaks, and on whom we auscult, is, of all the others mentioned before, the one which has most exclusively engrossed the attention and scrutiny of medical philosophers. Laennec, Skoda and Wintrich may be considered as the standard-bearers of the different views taken of the subject. Laennec is of the opinion, that the infiltrated or compressed parenchyma of the lungs, as well as liquids in the cavity of the thorax, are better conductors for the sound than aëriferous tissue. Skoda appeals in the most unbiased manner to a few well established principles of natural philosophy and to a few quite plain experiments instituted by him, to prove beyond any doubt the utter fallacy of the theory of Laennec, which was adopted throughout France; and it is astonishing how, nearly twenty years since Skoda first opened publicly his contest against Laennec, with weapons none other than sound logic and an unbiased mind, there should still to this day, here and there, *cis et trans mare*, exist some stragglers of the French army. But every cause, every idea, and every theory finds its Epigones—be it table moving, know-nothingism or some special francomania.

Skoda's success in his criticism of Laennec must be considered complete, the more so, because as yet not a finger was raised in any part of the medical world, were it only to point at the allegation, that his arguments against Laennec are erroneous. In the same degree successful do I consider Wintrich in his strife against Skoda's consonance theory, the essence of which is that through certain pathological changes in the parenchyma

of the lungs, the air-conducting tubes which pass through such portions, become enabled to effect a consonance; *i. e.* to make the air which they carry sound together with and through the sound of the voice, whereby the latter gains strength on its passage through such bronchial tubes to the parenchyma and the ear of the auscultator.

I say, that Wintrich's criticism of Skoda's theory is as decisive as is Skoda's criticism of Laennec's theory, and for both sets of arguments I must refer the reader to their respective writings, as I do not feel warranted to claim on that account the limited space of a periodical.

On the other hand, I am compelled to maintain that Wintrich is equally unsuccessful with Skoda and Laennec in his endeavors for the settlement of the vexed question.

His hypothesis is this: that in certain pathological conditions of the lungs, the air-carrying tubes passing such portions, become a kind of speaking tubes, with solid walls of a more homogeneous structure, that thereby they gain in reflecting power for the sound which they conduct to the parenchyma, which makes the sound more concentrated, and consequently stronger.

Now, with great respect for Prof. Wintrich, I take the liberty to proclaim it an unmitigated sophism to say, that because a sound is more strongly reflected on the inner surface of a tube through which it has to pass, that such sound will therefore be heard so much stronger, not at the open end of the tube, where the whole of the so reflected and concentrated sound will come out freely, but through the walls of such tube; when the fact of greater reflection of a sound on the surface of a wall is identical with the fact, that less of that sound passes through such wall outside. (*Vide* March number of this Journal, "On the Respiratory Sounds," where this argument against Wintrich is more fully developed.)

In this place I will confine myself to the quotation of one passage of Wintrich (op. cit.), as complementary evidence against himself. He says, page 128: "If I place my stethoscope over a spot of the laryngeal or tracheal wall, while the person on whom the exploration is made speaks, I notice already at every time a weakening of the articulated voice. The same is less intense than if I receive it directly through the stethoscope in my ear out of the mouth of the speaker; it is less round, and less distinctly articulated. This indistinctness is in proportion with the weakness of the articulated sound in the mouth itself. The reasons of this state of things are obvious. As I have already explained above, in passing from the mouth of the speaker into the ear of the auscultator, the articulated sounds go through a more favorable, more homogeneous

medium, and as far as reflection of sound is concerned, under conditions more convenient for the hearing than is the case over the larynx and trachea, to which parts the sound is not so well reflected backward, and where, moreover, the sound has to pass the strongly reflecting walls of the larynx and trachea."

In other words, one of the reasons why the voice over the larynx and trachea is heard less strong and less distinct than out of the mouth of the speaker, is, that over the larynx and trachea the voice has to pass the walls of those parts which, on their inner surface, are very strongly reflecting. Consequently, the strong reflecting power of the larynx and trachea is acknowledged to weaken the vocal sound for the ear of the auscultator outside. Wintrich stabs his own theory.

We need not wonder at the abortive results of all the mental labors which such men as Laennac, Skoda, and Wintrich brought to bear upon the point in question. The question was taken out of its legitimate sphere; by an evasive technicality, and by a change of phraseology, it was dragged from the tribunal of physiology, where it properly belonged, and brought before the forum of pathology, and therefore it has as yet not received an impartial answer. Instead of inquiring after the cause why, in certain abnormal conditions of the respiratory organs, the vocal sounds are heard stronger over some places of the thorax through auscultation—which wording certainly has a pathological complexion—the problem ought to have read: why, in the normal condition of the lungs, the voice of the person over whose thorax ausculation is practised, is heard so weak and indistinct in comparison with the strength and clearness of the same voice as it comes out of the mouth, and is received by the ear at an equal distance in the free air? So formulated, the question falls within the province of physiology, and sound physiology begets sound pathology. Moreover, in this natural shape, the question becomes more simplified and less embarrassed; bias, prejudice, erroneous principles, and false conclusions are kept further aback, and the solution can be arrived at in a less tortuous way.

Once fully understanding the cause why, in the healthy condition of the lungs, the voice over the thorax is heard weak and less clear, we will not be at a loss to discover the reason why, and the circumstances under which, in pathological changes of the respiratory organs, the strength and clearness of the voice heard in auscultation over the thorax, increases.

And I may as well say here, that at the same time, all the other above enumerated differences in regard to the strength and clearness of the auscultatory voice between different regions of the thorax, between different persons, between differ-

ent keys of the voice, between the right and left half of the chest, and last, but not least, between lungs that speak and lungs that are spoken into, will meet a ready solution.

The last mentioned difference must take precedence of all the others, as it is in itself the full answer to the whole many-headed question. The experiments of Skoda, Wintrich, and myself, on lungs of animals and cadavers, have shown that if vocal sounds are sent through a tube into the larynx or trachea of such lungs, or if (according to Skoda's experiment), by blowing in the larynx of a cadaver, a sound is there produced similar to the human voice, we hear these sounds far stronger and clearer in auscultating over the lungs, than is the case over the thorax of persons who speak.

These experiments at once make it impossible for any logical mind to suggest that the cause for the decrease of the strength and clearness of the voice over the thorax of a person with healthy lungs, on whom auscultation is made, lies with the structure of the lungs. The structure of the lungs, as a medium for the transmission of the vocal sound from the larynx to the ear of the auscultator, placed over the parenchyma is the same, if the sound comes out of such lungs, as is the case when a person speaks, or if it is conveyed there through the larynx, as exhibited in the above quoted experiment. And why should there be a difference in the strength and clearness of the voice in favor of the case, where the lungs are spoken into?

This consideration alone, so natural and obvious, must be sufficient to disclose the fallacy of the views of Laennec, Skoda, and Wintrich, who, with common accord, would have the structure of the lungs to be made preëminently responsible for the strength and clearness of the voice, and for the want of both or either.

I do not mean to say that the change of medium which the voice has to undergo, on its passage from the larynx to the ear of the auscultator over the parenchyma and the spreading of the sound through the innumerable ramifications of the air-tubes, does not influence at all its primitive strength and clearness. Such an assertion is absurd, *a priori;* for each change of medium must more or less take from the strength and clearness of a sound, and so must the spreading and splitting of a sound affect it. Moreover, we see that even in the experiment referred to, the voice transmitted through the larynx into the lungs, has there not quite the original strength and clearness, which can only be accounted for in the manner here alluded to, *i. e.* by the change of medium and by the attenuation which the voice suffers through its spreading and splitting on entering all the bronchial tubes.

But I certainly do mean to say that there must be still another cause, to which the additional diminution of the strength and clearness of the voice over the thorax of living persons with healthy lungs, in comparison with the voice which is transmitted to the larynx, and is auscultated over the lungs of dead animals, must be assigned.

And what can that cause be? It must of course be such as is only available in lungs that speak, and not in lungs that are spoken into. And what can be working in the one and not working in the other? What is the difference between the two? Turn as we may the subject, we can see no other difference than that in the one case *the lungs speak*, and that in the other *the lungs are spoken into.* That is the fact, and at the same time the explanation of the fact.

When a person speaks, the lungs are compressed through the action of the expiratory muscles, whereby the air within becomes condensated, so as to form an air current, which begins at the innermost recesses of the air-cells. This current produces the vocal sound at the rima glottidis; but at the very instant the vocal sound is produced it is carried off in the direction toward the mouth by the same current, to which it owes its existence. The voice, therefore, in its passage backward toward the parenchyma of the lungs, has to force its way against the current, so that in fact only a comparatively small fraction reaches the parenchyma, and it consequently appears to the ear of the auscultator much weaker and less clear, than it is heard over the larynx, or out of the mouth. Not so when we send a vocal sound into the larynx of calf lungs, or of healthy lungs of a dead person taken out of the thorax, or left within the same. This vocal sound spreads better toward the parenchyma, as it does not meet an antagonistic current, and must therefore be heard stronger and clearer than in the first case.

If a person speaks through a tube in the direction toward the north, and if the wind blows in the same direction, who would be astonished to hear that voice in the direction toward north, stronger and clearer than toward the opposite direction, at an equal distance? And this is more than a comparison with the case in question, it is nearly identical with it. There is no hypothesis, nothing problematical needed in support of this view; it is as clear as the light of day, it is as safe and firm as an axiom and as familiar as an every day's occurrence.

In engendering vocal sounds, that is, in making vocal expirations through the action of the expiratory muscles upon the thorax, the whole of the lungs is not brought under an equal muscular pressure; those parts which are placed beneath the more movable sections of the thorax will receive a greater share of the expiratory pressure, others will receive less of it,

or perhaps none at all. Consequently, the air-current, which issues from the lungs at vocal expiration, will not have the same velocity in all parts of the lungs. It will be swiftest in those parts most and easiest compressed. The antagonistic action of the air-current to the propagation of the voice backward toward the parenchyma of the lungs, will therefore not be alike strong in all parts of the lungs; and as the subclavicular and still more the interscapular space of the thorax is anatomically the most firm, the least movable, the portions of parenchyma beneath these sections, must be least and only last compressed at vocal expiration; the current of air in these parts must be less swift, less antagonistic to the propagation of the voice, and therefore, the voice in these localities will be often heard stronger and clearer in auscultation; or it will there be heard as the real voice, while over the rest of the thorax it is only received as a murmur; or at last it will in these regions appear as a stronger and louder murmur than over the others.

I have explained above that the air-current in the right lung must, *cæteris paribus*, have less velocity than the current which at vocal expiration issues from the left ala. This will be sufficient to account for the fact that the voice, or the murmur in its place, is sometimes heard stronger and clearer over the right half of the thorax, and that in the healthy condition of the respiratory organs this is never the case with the left ala alone.

Further I have considered myself justified to postulate, that not all persons use the same amount of muscular action with the same suddenness to produce the vocal sounds; and I now add as a corollary, that the air-current in vocal expiration will, *cæteris paribus*, therefore not possess the same velocity in all persons, and that in some persons where it is more slow, the voice will find less obstacles to its transmission to the lungs, so that it will in such persons be heard stronger and clearer, or at least as a stronger and louder murmur than in others.

Should it be alleged that I have been too gratuitous in my postulate, and too hasty with its corollary, I confidently hope to meet with better success, when I contend that, *cæteris paribus*, the voice with a low key is produced by an expiratory air-current of less velocity than the voice of a higher key. The argument for it is this: it has long been a well established physiological fact, that the lower the vocal sound the wider open is the glottis, and *vice versâ*. Professor Czermak, of Pesth, has of late confirmed this fact anew by direct observation with the aid of Garcia's laryngeal speculum.—("*Physiologische Untersuchungen mit Garcia's Kehlkopfspiegel, von Prof. Joh. Czermak. Aus dem xxix. Bande, No.* 12, *Seite* 557 *des Jahrganges* 1858, *der Sitzungsberichte der mathem-naturw. Classe der Kais. Academie der Wissenschaften besonders abgedruckt. Wien*, 1858.")

Suppose, then, two persons with lungs of equal capacity, who in vocal expiration use the same amount of muscular action with the same suddenness, and who exhibit the same intensity of voice, but differ in its key. The force of the expiratory muscles being the same in both, the effect also must be alike, that is, a certain volume of air will be removed in a given time through the glottis, which volume will be the same in the one person as the other. But in the one person the glottis is narrower at vocal expiration than in the other, and it could not be that the same volume of air should be discharged through it in the same time as in the other person with a deep key, where the glottis is wider at vocal expiration, unless the velocity be increased. And this indeed is the case, according to well established aërodynamic principles, which it would be out of place here to consider more in detail.

Consequently, the voice with a deep key is, *cæteris paribus*, produced by an expiratory current of less velocity, than the voice with a higher key; the obstacle to the transmission of the deep voice into the lungs backward must also be less, and therefore this voice be heard stronger and clearer in auscultation over the thorax, compared with the high voice.

After having found the clue to the differences in strength and clearness of the voice, in auscultation over the thorax, between lungs that speak and lungs that are spoken into, between different regions of the thorax, between the right and left half of the chest, between different persons and between different keys of the voice, it cannot be difficult to understand why in certain pathological conditions of the respiratory organs the voice is heard stronger and clearer over some portions of the thorax.

If, through a pathological change, a portion of the lungs can not be compressed at vocal expiration, so that none of the expiratory air comes out of such part, if at the same time that portion of the lung contains an air-carrying bronchial tube, which is in open communication with the trachea and larynx, we will hear the voice in auscultation over the part of the thorax corresponding with such portion of the lung much stronger and clearer, sometimes even as strong and clear as over the larynx, because the voice has no air-current to overcome on its passage through such portion.

Compression or infiltration of a portion of the lungs, or a cavity within the same with rigid walls, which prevent its participation in the vocal expiration, will be apt to have such an effect, to exhibit the voice in auscultation, as what is called by the pathologists—*bronchophony.*

(To be continued.)

QUARANTINE, STATEN ISLAND, *April 12th.*

ORIGINAL LECTURES.

HYGIENE.

Being the Substance of a "Charge" given February, 1859, to the Graduating Class in the Medical Department of the University of Buffalo.

By FRANK HASTINGS HAMILTON,
PROFESSOR OF SURGERY.

GENTLEMEN: If we compare with each other the three learned professions, Divinity, Law and Medicine, we shall see between them a striking parallelism, and such as must command our special attention. They relate severally to the interests of the soul of man, to his civil interests and to his physical. The priest is responsible for the faithful exposition of the divine messages which are intrusted to him embodied in the ten holy commandments, and called the Laws of God. The lawyer is responsible for a just interpretation and righteous administration of the Laws of State; and the physician is responsible for an earnest and complete declaration of the Laws of Health.

It does not interest us now to know which of these professions contributes most to the great end and sum of human happiness. Each, no doubt, has its place and position, and perhaps its rank; and each in its appropriate sphere may extend its walls and build outward to the world's limits, and yet the one need not at any point jostle or trench upon the other.

We propose only to inquire which of these three has performed its functions most completely and efficiently; believing that it will be found that in one essential particular the profession of medicine has hitherto grievously failed.

In the homely proverb "an ounce of prevention is worth a pound of cure," is embodied a great truth of universal application; and applied to the liberal professions, it instructs us that each embraces two distinct arts, which may be called respectively the art of prevention and the art of cure.

As to the manner in which we have performed our duties in this last respect, the world has but little reason to complain of either of us.

The clergyman as well as the physician visits the dying patient, and in the last hour of a life spent in sin, finds the unhappy soul laboring under a moral leprosy which nothing but the grace of God can remove. With a zeal which challenges our admiration, he addresses himself to the work commissioned to him; nor do his labors cease until the light of intelligence has altogether gone from the eye; not until the windows of his soul are darkened, and the heavy casements are closed forever.

The lawyer visits the prisoner in his cell, and listens attentively to

his own account of his offence. He writes down carefully every circumstance of palliation; and when the day of trial arrives he stands before the court, armed with all the evidence which his genius can invent, which the laws and decisions can supply, or which the facts themselves will warrant in proof of the innocence of his client.

So also the physician, when summoned to the bed of sickness, does not fail one whit of his responsible duty. He hears patiently the history of the source and progress of the sufferer's malady, and examines carefully his present condition. He counts every wave of his feeble pulse: he listens attentively to the murmur of his breathing, and measures the drops upon his brow. All that science or art has contrived for the preservation of life, or for the mitigation of suffering, is impressed speedily into his service; nor does time or season interrupt his anxious labors. Night does not suspend his vigils, nor does the storm delay his attendance.

Over the entrance to the house of the Royal Humane Society in London is placed a basso-relievo, representing an infant blowing upon a few expiring embers, and underneath is written *Lateat forsan scintilla*—Perhaps a spark lingers. So we have often seen the physician, in cases of sudden death, unwilling to trust to the judgment of his erring senses, continue his efforts to awaken the spark of life, long after all just grounds of hope have ceased.

In the practice of the art of cure, gentlemen, we yield nothing to either of our noble sisters. To this duty we have brought as much talent, and genius, and persevering industry as have the members of either of the other liberal professions, and I think they will not hesitate to make us this acknowledgement.

Let us see now whether we can fairly claim as much for ourselves in that other and broader field, the art of prevention.

Divinity begins to instruct its pupil almost as soon as the petals of its intellect commence to unfold themselves. Like a gentle dew it distills upon the opening bud from the earliest dawn of life, imparting a color and fragrance which is never afterward wholly dissipated. In the nursery, religion and morals are taught by the catechism, and by the simple, but to the child, the yet unmeaning prayer, repeated silently both morning and night at the bed-side. The mother daily watches the growing plant; like a faithful gardener, she supports its tender stalk gently in her hands that it may continue to grow heavenward, while its fibre is becoming harder, and its habits and direction are becoming fixed.

The same watchful care follows the child wherever it goes. In the Sabbath school pious teachers, the Bible and its commentaries, with a library of well chosen volumes, repeat the lessons of morality. The child himself soon becomes a teacher, and his knowledge advances far beyond the simple rules of virtue to the more abstruse doctrines of the church.

The clergyman also warns from the pulpit, Sabbath after Sabbath; he exhorts, entreats and threatens.

Is not the Bible in every man's dwelling?

In Christian countries, like ours, men never plead ignorance in justification of their moral offences. This would be a shame, greater than the offence itself.

Law, too, is taught from infancy to manhood. The legislators print their laws in newspapers and in books, sufficient to reach every citizen of the State. The judges publish in the daily journals their new decisions. Lawyers, speaking openly in the numerous courts, proclaim and interpret these decisions; and in republican governments, founded upon the doctrine that the people themselves make their own laws, the principles and maxims of government are harangued and discussed in nearly all public political meetings and in most private assemblies.

In all civilized governments it is assumed that every man knows the laws of the state under which he lives, and that the plea of ignorance can therefore never be received in extenuation of an offence. *Ignorantia legis neminem excusat.* And if the assumption is in some sense a fiction, nevertheless it is true for all practical purposes, since it is very seldom indeed that a citizen breaks a statute through ignorance. The vast majority of mankind in civilized countries live in obedience and suffer no penalties.

Whatever of violation of the laws of God or of man, therefore, exists, is, as a rule, intentional and defiant; but in relation to the laws of health the argument is wholly different—gross and unmitigated ignorance is the almost constant rule, and the exception is the other way. Children perish of bad air and of bad nourishment because their parents are ignorant of what constitutes good air and wholesome nourishment. Men die of indigestion and of physic because they do not know what causes indigestion, and because they have never been taught that there is death in physic.

It is true that many transgress the laws of health who know well enough what they are about. This is true often of soulless municipal corporations, and of more soulless masters; it is true also sometimes of men in relation to themselves, of men whose ambition or greed renders them reckless of life; but will you say it is true of parents in relation to their children? Can you persuade yourselves that it is true of any of those ten thousand examples, forever recurring, in which the ties of family, or the general obligations of humanity seem to impel men and women to give advice in relation to the preservation of health, which proves so often unfortunately the occasion of death? With the most sincere and earnest desire to do good to their fellow beings these people never cease to do harm.

I do not magnify the evil in this respect. Says the venerable and learned Dr. Francis of New York, "That ignorance of the laws of life, of the rules of health and of the remedial powers of medicinal substances, prevails to a wonderful degree, even in exalted places, is an incontrovertible position."

There is everywhere, among the people a most fatal ignorance upon this subject; and if physicians are not responsible for it, I do not know who is. It has not been intimated that our profession has not occupied itself sufficiently in the investigation and ascertainment of the

means of preventing disease. On the contrary, we have ourselves well understood its importance and in the course of your medical reading, and of the term of instructions which has just closed, your attention has been repeatedly called to it. We do not think so much time and talent has been expended upon any department of our science as upon the subject of public and private hygiene, and especially during the last quarter of a century. With incredible labor, facts bearing upon this matter in all its relations, have been gathered, condensed and analyzed, and practical conclusions of the greatest value have been drawn, and indeed established with consummate accuracy. Says Dr. Francis, to whom I have already referred, "Hygiene, state or political medicine, has long constituted an important branch of medical education on the European Continent. The Teutonic nation has long been conspicuous for its labors on this subject, and Italy recently has manifested the most patriotic spirit toward its encouragement."

In our own country we may also refer you to the names of Drake, Mitchell, Emerson, Hayward, Driscom, Dunglison, Forry, Barton, Reese, and many others, as men who by their labors and writings have thrown much additional light on many of the subjects connected with general hygiene; or indeed not to go beyond this city, I may mention with pride the name of Hunt, whose elaborate paper on the hygrometric state of the atmosphere in various localities, and its influence on health, written by order of the American Medical Association, and published in its "Transactions," for the year 1855, taken in connection with the observations previously made by Dr. Barton of New Orleans, has established certain laws relating to the influence of humidity and temperature on health, which need no further confirmation; and which, if recognized and made practical, may hereafter prove of incalculable benefit to the human race; and also to the name of Newman, whose report to the same body on the "Sanitary police of cities," published in the "Transactions," for the year 1856, embodies a mass of facts and practical conclusions which, if understood and carried into effect by municipalities, could not fail to diminish greatly the rates of mortality in large towns. The paper is profound and valuable, far above the measure of his years, and has received the approbation of the press and of the profession everywhere.

It is just this of which we complain: whatever may be said of the uncertainty of our curative means, and however much we may differ upon points of general practice, in this department at least we have arrived at conclusions which are definite and settled to a degree scarcely credible. All intelligent physicians speak and think alike on this subject; and even leaders of empirical sects, little as they may know of, and less that they may have contributed to these conclusions, do not venture to differ from us in relation to the general laws of hygiene. We complain, therefore, that in reference to the most important branch of our art, and that of which we really know the most, the people, to whom we administer, know the least.

The only apology which we can find for ourselves is that we lack in some measure the means of conveying this information to the people.

If the Bible and the statute-books were the only channels through which their instructions could be conveyed to the multitude, many must have forever remained in ignorance even of those ordinances which are the most simple and easy to comprehend; since many are unable to read, and others would never incur the expense, nor devote the time requisite to possess themselves of such knowledge; but, as we have seen, such is not the fact. The Bible and the statute-book are the sacred wells from which all who wish may freely drink; but their waters are carried in pitchers to those who are unable to reach the fountains, and by ten thousand ministering hands lifted to the lips of those who are ready to perish.

But the physician has very few helps in his labor of diffusing medical knowledge of any kind. The people do not go up to Siloam; and the physician must not only draw from the pool, but he must himself carry the buckets upon his own shoulders, and cry out at every man's door —up and down—in the narrow gangways and in the cellars of the poor, and the houses of the rich.

Our books are sealed in a great measure, even to the intelligent lay reader. Our opinions are never discussed or asked in public assemblies. The physician never enters the forum. Even the daily prints, which are subservient to the other professions, and which might be made subservient to ours, are so constantly filled with lying and scandalous advertisements, under the pretence of disinterested medical counsel, that all respectable physicians would refuse to occupy their pages, even if allowed to do so.

Beyond the little that can be accomplished through the medium of our standard books and our medical journals there remains, therefore, only the channels of private communication: but these channels, each one of which is narrow, and necessarily limited in its influences, are in the aggregate so numerous and so broad that they ought to be ample for all the purposes required. All men, sooner or later, and most men constantly seek advice from doctors. The desire to take medicine is as universal and seems as natural to man, as is religion: indeed, there are those who appear to think this the great end of human existence. The nurse administers medicine to the infant as soon as it breathes; and by one or another it is poured into the mouth of the dying man until he ceases to swallow. From birth until death he feeds upon it—blessing him who gives, and turning away from him who withholds it. Few men are born, fewer die, and none live without a doctor! The opportunities, therefore, will not be wanting. It is only necessary that they should be faithfully improved, and that with each pound of cure you administer the one ounce of prevention.

Where will you begin? In what manner shall you address yourselves to this work of reform?

It is not very material, we think, where the labor is commenced. The field is fallow everywhere about you, and wherever you plow you will open a virgin soil. In all of the civilized countries of Europe, and especially in Great Britain, hygiene not only is studied, but it is practised, and its results are seen in the stouter forms, and happier faces of

the people. Even London, with the largest population of any city in Europe, has, we are told, the lowest rate of mortality among its inhabitants. We, as a nation, although sprung from the best blood of Europe, the blood not of kings, or of nobles, but of laborers, who drew their milk from the bosom of the earth, and whose veins were enriched with its strong juices, are already physically the most feeble, and seem rapidly falling into a premature decay. M. Mayor, late of Lausanne, in Switzerland, a distinguished surgeon, who is now a resident of this country, in a letter addressed to the writer a year or two since, expresses his astonishment at the habits and physical condition of Americans, and especially of American women. He says they are pale and without strength, and at the present rate of degeneration he cannot see how our race can survive more than a few generations. Nor is he at a loss for the cause of this decadence, when he observes how constantly both in the city and country they shut themselves up in close and overheated houses, as people do nowhere else in the world. All travellers among us notice the same alarming facts, and disguise it as we may from ourselves, the common sentiment of intelligent foreigners, as well as my own personal observation, confirm the truth of the comparison.

It was not my purpose at first to do anything more than to call your attention in this general way to the importance of the subject of general and special hygiene, and to persuade you that there is something more for you to do than to administer drugs: indeed, I wished to convince you that you have a work to do which we have left undone, namely to enlighten your patrons, the people, upon this subject. I trust that I have not failed in my purpose, and that you only need to be reminded of your duty to secure from you its faithful performance; but I cannot forbear, especially as the time seems to permit, to speak a little more in detail of certain practices which especially demand reform.

Men must be first made to understand fully that the laws of nature in regard to health are inviolable, and that no man can any more break them with impunity than the laws of nature relating to the motion of the planetary bodies can be disturbed without interrupting the harmony of the universe. "If celestial spheres," says Hooker, "should forget their wonted motion, and by irregular volubility turn themselves any way as it might happen; if the prince of the lights of heaven which now as a great giant doth run his unwearied course, should, as it were, through a languishing faintness, begin to stand and to rest himself; if the moon should wander from her beaten way, the times and the seasons blend themselves by disordered and confused mixtures, the winds breathe out their last gasp, the clouds yield no rain, the earth be defeated of heavenly influence, the fruits of the earth pine away as children at the breasts of their mother, no longer able to yield relief, what would become of man himself, whom these things do now all serve? See we not plainly that obedience of creatures unto the law of nature is the stay of the whole world?"

It is a law of nature that man cannot live without air. Air is the "breath of life," created, too, with invariable elements, and with inva-

riable proportions of oxygen and hydrogen; from which we ought to learn that these elements in these exact proportions, are more natural and most needed for the growth and repair of the human system. They cannot be increased or diminished, alternated or modified in any way without detriment to health; you will find, however, that the great majority of the people who are to employ you, do not know this, or if they know it, they, at least, act as if they did not.

They build strong, air-tight houses, and shut themselves up in them; they make double windows, and place strong porches over the doors; they have even walled up the open fire-places—in short, they have adopted every possible expedient to render it certain that no air shall get in or out; and now they sit down to breathe the few cubic inches they have imprisoned, until in the laboratory of their lungs they have converted nearly the whole into carbonic acid.

Within a few years the air-tight stove has been substituted for the iron dogs, and for the first time since men began to live in houses we have no "fire-places." The shrine of the Lares has been removed, and our houses have been literally pillaged—robbed of the domestic hearth, toward which so many associations have always centered, for which the blood of nations has been poured, and which in all ages has been regarded as the symbol of home with all its social comforts.

Not content with this, these enemies to our race have still more lately taken away the stoves which, destitute of the essence, still occupied the places, and served to remind us at least of the ancient fire-places; and instead, they have built for us iron furnaces—Ætna's—under ground, so that now what of the oxygen we are not able to consume and convert into carbonic acid, is vitiated by impure gas escaping from its hidden chambers, by invisible particles of coal dust, and by other impurities which clog up the air-cells, and close the avenues of life, or stick along the parched fauces as if reluctant to convey their poisons to the lungs.

Stoves have no doubt abridged the sum of human life, but by these subterranean iron furnaces we are truncated—cut short in the middle. It is an error to suppose that hot-air furnaces can ever be so constructed or managed, at least in private houses, as not in any degree to prove detrimental to health. We wish we could persuade ourselves that this is not so, for it is certainly very agreeable in a climate like ours to enjoy throughout all the rooms and passages of the house warm and uniform temperature; but it is just this even warmth which is one of the sources of mischief. The inmates are so little accustomed to the cold within doors, and become so morbidly sensitive that they shudder at the idea of going out, and if they ever do venture into the air, the frost enters into their open pores, and they hasten back to their shelter, chilled, exhausted and discouraged. They are no better able to endure the storms of winter than a plant reared in a hot-house. It was the venerable Bede, I think, who said, "When men lived in houses of willow, they were of oak; but when they lived in houses of oak, they were of willow." But the willow, which bows to the storm and hangs its pliant arms to the earth under its weight of frost and snow, has

elasticity in its fibre, such as you will not find generally in the occupants of oaken houses at this day. The cockneys of this generation and of this country are no longer even men of willow, but men of straw, from whom the marrow and essence of life is dried out; or if they still retain some natural moisture, the spirit at least is gone, the alcohol is evaporated, and they congeal at the same temperature at which water freezes, and are as worthless for all practical purposes in this climate as spirit thermometers would be if supplied with water instead of wine.

The truth is, unwelcome as the truth may be, that we must accustom ourselves to moderate cold within doors before we can successfully resist the extreme cold without doors, and for this reason no rooms ought to be warmed in any man's dwelling, except those in which the family sit and eat. The halls and bed-rooms at least should be kept carefully cool, so that the inmates may, during a large part of their in-door lives, enjoy its invigorating and acclimating influences.

For us who live at the North to occupy constantly heated apartments, is as irrational and suicidal as it would be for those who live under the tropics to shelter themselves, during the heats of the day, in an ice-house, or in underground apartments.

There are many other evil consequences resulting from living in over-heated rooms, to which I do not find time to allude; but allow me to remind you of the process by which the livers of geese are diseased, and from which the celebrated "pâtés des foies gras" are prepared. The poor animals are nailed by the feet to a plank, and placed in ovens or before hot fires, while their stomachs are constantly crammed with food. If we do the same to ourselves, I do not see why the consequences may not be the same, nor why a race of anthropophagi might not hold in equal estimation the livers of men and women fed and fattened in these modern ovens.

But to return to the subject of which I was more especially speaking, namely, air, ventilation and furnaces. Says Dr. Morland, the able editor of the *Boston Medical and Surgical Journal*, in a recent notice of Dr. McCormac's opinion that the inhalation of carbonic acid is the great cause of consumption, here and elsewhere: "We believe that in its effects on the physical constitution, the great majority of mankind are more ignorant of the importance of the quality of the air they breathe, than of anything else, and that hygienic reform is needed in this direction more than in any other. The evil is one which exists among the rich as well as among the poor, though not to the same extent. We doubt, however, whether the 'middle classes,' as they are called, inhale a purer atmosphere at night than the poor. The destitute have one comfort, there are no furnaces in their houses, and if there be but little fire, there are at least fire-places. Many of our houses have neither fires nor fire-places, consequently the circulation of air is very languid, and the atmosphere becomes speedily contaminated with carbonic acid, especially at night and in cold weather, when all the doors and windows are closed, as is too often the case."

Talk of ventilation! Gentlemen, there have been no ventilators yet contrived, equal to the open throat of a large, old-fashioned fire-place,

with its stream of hot air rushing upward, compelling the pure air from without to find an entrance somewhere, in order to supply the rapid waste.

If this mode of heating is more expensive, which we very much doubt, since radiated heat is not wasted in the upper parts of the room, and consequently is much more effective for the purposes for which it is needed ; still, admitting that it is more expensive, it costs less in the long run than debility, neuralgia, rheumatism, inflammation, coughs, colds, and consumption. It is less expensive than doctor's fees, or than physic, even if the doctor's fees are never paid.

In private houses, and in public, in jails, and in alms houses, and especially in large and crowded school-rooms, will these abuses of oxygen invite your attention, and demand your earnest protest.

But the purest air is out under the broad roof of heaven. There the invalid may find a medicine cheap and abundant, and more efficient, often, than all the bones of the Pharaohs or than all the remedies contained in a score of drug shops. The man who is well, also, may find there a plentiful stimulation, oil for his marrow, vigor for his mind, and iron for his muscles. A great writer has said, " Man decays when man contends with storms ;" but we think ourselves wiser than the Greeks, at least in some matters. When man wrestles with the storm he gathers strength from the contest. A cold north wind, with a driving snow-storm, shortens the ham strings, converting the pliant tendons into sinewy thongs, which, as every surgeon knows, will sooner break the bones than yield themselves.

Exercise with recreation are only second in importance to pure air. Exercise without recreation is useful; but to develop its full value the mind also needs to be relaxed and agreeably entertained. The gymnasium and the riding-school are excellent means of promoting health, and of increasing bodily vigor ; but the skating pond, the swimming school, the ball club, the pleasure yacht, the gun and the fishing rod, the horse and saddle on a mountain road are worth much more.

Girls at school may practise the monotonous drill of arm stretching—or, as it is called technically, " calisthenics"—as skillfully as the soldier handles his gun in the company drill, but without the tapping of the drum and the thrilling notes of the fife, " with the pomp and circumstance," they cannot feel their heart-strings vibrate, and the blood tingle in their fingers. Instead of marching these young maidens in platoons and in solemn procession along the fenced streets, upon the paved sidewalks, it would be much better to take down the bars, unloose the halters, and turn them out into the open pastures like young colts, for a hurrah girls, and a wild stampede—a regular steeple chase. And while the prancing and frolicking goes on, let the teachers look the other way; or, if they choose, let them join also in the wild and unrestrained romp, and I tell you there will be good from it all around. Pale faces will grow ruddy, crooked backs will become straight, appetites will be sharpened—even the meats in the steward's hall will be more tender, and the beds will be softer.

Women need health as much as men, and more. Then they ought

to have the same physical training. Girls must get strength just as the boys do, by running, jumping, climbing, laughing, and by all sorts of general vagrancy, until the pent up spirits are sent bounding and leaping through all the veins. If any mother feels shocked at this advice, we can only say we have not made the laws of nature, and our profession is therefore in no ways responsible for these inevitable inferences. If such practices are inconsistent with the natural delicacy and a becoming dignity in young ladies, we reply that we do not propose to teach the proprieties of deportment; we speak as physicians who hold ourselves answerable only for the training of the body. Calisthenics may be very genteel and romping very ungenteel, but that is the business of others, not ours. We hold, and it is our duty therefore to teach, that calisthenics is the shadow and romping the substance of healthy exercise.

Says Sterne: "Nay if you come to that sir, have not the wisest men in all ages—not excepting Solomon himself—have they not had their hobby-horses, their running horses, their corns and their cockle-shells, their drums and their trumpets, their pullets, their maggots, their butterflies?" My friend, a well known and very distinguished doctor of divinity, believes that I also ride a hobby, since I will prescribe no medicine for him but a horse; and I frankly confess that he has good reasons for his belief. It is a part of the speaker's creed that all religious congregations should first built a barn, and buy a horse with a saddle and bridle; all which should be sufficiently endowed so as to cover every future necessary expense; and that as soon as the horse is properly installed, and not before, they may proceed to install a pastor. This doctrine, in which we fully believe, has reference no less to the interest of the church than to the interest of the clergyman. It will secure one original sermon on every Sabbath morning; it will obviate the necessity of assistant chaplains and save the expense of a voyage to Europe once in five years. It commends itself especially, therefore, to the consideration of poor and feeble congregations.

The utility of horse-back exercise is not limited, however, to clergymen and their congregations. It is, in our humble opinion, the best exercise for both men and women, whether within or without the church; combining, as it does, the largest amount of active and passive motion, with agreeable excitement. The trout may refuse to nibble, and the game to start, but upon the horse there is certain pleasure beyond all contingencies. The rider is above everybody else, he goes faster than anybody else, and he is very sure that he rides and manages a horse better than anybody else. He has, for the time, a kind of ideal and not actual being, and rides his horse as a poet rides his pegasus. At one moment he imagines himself a general at the head of an army; at another, an emperor making a triumphal entry; now he is a knight, returning from conquest, and now, perhaps, he rushes in battle; or he is riding a fierce race, and he springs in his saddle as if ten thousand bright dollars depended upon the result. Not that he actually believes all this, but only that he feels somewhat as if it were so, or might be so. When he presses his spur into the tender flank, and his horse

plunges and prances, he also plunges and prances like his horse. He feels as if, in riding him, he was a part of the noble animal himself, and that he is indeed what the Thessalians were reputed to be, half man and half horse—a real Centaur.

We cannot tell you what a horse will do with that precision and minuteness with which an empiric recounts the diseases which his hobby will infallibly cure, but we are certain that our hobby will reach a great variety of cases; and we believe that a horse—one horse a day—is good for almost everybody, if properly administered. Some will require to be cautioned against riding too violently, while for the benefit of others you must add the directions usually given in the old polypharmic prescriptions: "when taken to be well shaken."

Apropos to this subject, allow me to read to you a portion of a very sensible and spirited article from the columns of the *New York Times*, in which a comparison is instituted between the relative merits of carriage and horse-back exercise:

"The plans for the Central Park are now undergoing examination at the hands of the Commissioners, and it is perfectly fair to suggest one or two points which deserve more notice than they are likely to receive, in arriving at any decision on the merits of the competing schemes. There are various portions of the public whose tastes and interest must be consulted in laying out the grounds, but there are some more likely to be unduly cared for, and some not likely to be cared for at all. Military companies, cricket players, skaters, strollers, loungers, are all sure to be provided for amply. There are two other interests, however, which must be impartially dealt with, and whose claims, are nevertheless somewhat conflicting—we mean the carriage interest and the saddle interest.

"The driving of vehicles is a great institution among us, and may be safely said to constitute almost the only out-door amusement of the majority of our male population. The ambition of every fast man, young or old, is to possess a wagon with one or two trotting horses attached, and so exclusive has of late years been the devotion to this species of recreation, that the art of riding on horseback may be said to be almost extinct among us. Between the two modes of rejuvenating either mind or body, there can be no sort of comparison. Apart from its interest in the betting ring, and its influence on horsebreeding, there does not exist a more unsightly and piteous specimen in nature, than a fast man, wrapped up in furs in a wagon, with extended arms, forcing a horse along at twenty miles an hour. There is no physical benefit to be derived from the operation; inasmuch as the movement is not sufficient to exercise the muscles of a delicate school-girl, and it cultivates no one quality of body except quickness of eye, and a cobbler's manual dexterity, and it cultivates no quality of mind, save the habit of attention.

"We think in the whole range of national amusements, it would be hard to find one so extensively pursued, which results in less benefit either to the national *morale* or the national *physique*. It has here at the North taken the place of everything else, and the result is and must be,

physical deterioration. The finest races of the world, physically, are and always will be equestrian races—races who love to devote the horse to his first and noblest use—the saddle. There could be no better examples of the truth of this than are furnished by the Poles, Hungarians, Turks, the upper classes in England and the Southern planters in this country. In all of these, equestrianism is a passion, and the art of managing a horse well, while sitting on his back, is justly looked upon as the manliest and grandest of sports. The horse was made to be ridden in the saddle, and his devotion to other purposes is one of the necessities, perhaps, but also one of the abuses of civilization. Dragging laded vehicles by pulling from the shoulder, is an occupation only fit for bullocks, and in those countries in which the horse is held in most esteem and in which he exists in greatest perfection, it is a use to which bullocks only are put. Kingsley is not far wrong in saying that, to be a bold rider, is presumptive evidence of divers other good qualities. The man who takes a six-barred gate in a flying leap is certainly a man in whom there is fine raw material, and the reason is obvious. Riding in the saddle, and above all hunting in it, develops the qualities of which, in their highest perfection, heroes are made. It teaches presence of mind, courage, quickness of eye, coolness in danger, self-reliance ; it teaches that most invaluable of things to be learned—mind and body to act together ; brings eye and limb and will into harmony, and makes the *morale* and *physique* work together for health and happiness and beauty.

" How much wagon-driving, 'granny'-fashion, with swathed legs, will give our young men's chests an inch in breadth, or add an ounce of flesh to their attenuated calves?

" If riding on horseback were the fashion, as it ought to be, New York parties would present less frequently the lamentable spectacle of cavaliers the same height and not half the breath of their partners. The narrow-shouldered, lanky beaux, who haunt our ball-rooms, are standing appeals to the Park Commissioners to do anything that in them lies to bring back amongst us the ancient and manly art of riding on horseback. Nothing will do so much to toughen our muscles and inflate our lungs. Nothing can brace nerves that tobacco juice and gin slings have unstrung, half as well as a hard-mouthed, well-fed, vicious horse on a fine spring morning. To make even a beginning, however, we must have a good straight ride, or one with no turns that we cannot see round, so that there may be no danger or collision, and into which no vehicles should enter. The almost total abandonment of equestrian exercise in New York is in a great measure due to the want of any place to ride in with safety to horse or rider. Places frequented by fast-trotting wagons are out of the question, because a horseman runs imminent risk of being run down at every stride by another class of pleasure-seekers, whom an infinity of drinks render unfit for any amusement but that of sitting bolt upright in a wagon, holding on by the reins, and shouting at a degraded steed. We hope the Central Park Commissioners will give us, at all events, a good road for horseback riding in the Park."

Our ladies need also to be taught the value of light, independently of air. " When a gardener," says Johnson, " wishes to etiolate, that

is, to blanch, soften, and render juicy a vegetable, as lettuce, celery, etc., he binds the leaves together, so that the light may have as little access as possible to their surfaces." In the same manner, the ladies, instead of opening their petals to the sun, as do the plants naturally and instinctively, cover their faces with veils and parasols to shut out its impertinent rays, and in order that they may etiolate themselves as completely as possible. Take some pains to convince your patrons, and especially to convince mothers of the value of light; assure them, however, that to compensate for the loss of the lily, where the sun has cast his shadow, he seldom omits to plant the rose.

There is a natural connection between dress and exercise, although I suspect it has never occurred to you to consider dress in this light Ladies' dress, which has constituted the point of so many jests and sarcasms, and has been the burden of so many cruel philippics and sober homilies, still needs, I am sorry to say, some reform; and ungracious as the service may seem to you, gentlemen, you will not be at liberty to withhold your voice.

It is not a question of hoops or of bustles, of mutton or of bishop-sleeves: these are matters of taste, which we would leave them to settle among themselves; only claiming for ourselves the same exemption from officious criticism.

But how can any lady go out of doors who "has nothing to wear?" Can she go out in cloth shoes?—I mean in this climate—in cambric dresses and without any bonnet upon her head? Yet they have actually, for the most part, no shoes or dresses or bonnets which are suitable, or which were ever designed to protect them from the rain or snow, or from the cold.

But in this respect our men are no better off. American gentlemen have adopted as a national costume, broadcloath—a thin, tight-fitting black suit of broadcloth. To foreigners we seem always to be in mourning; we travel in black, we write in black and we work in black. The priest, the lawyer, the doctor, the literary man, the mechanic and even the day laborer, choose always the same unvarying, monotonous black broadcloth; a style and material which never ought to have been adopted out of the drawing-room or the pulpit; because it is a feeble and expensive fabric; because it is at the North no suitable protection against the cold, nor is it indeed any more suitable at the South. It is too thin to be warm in the winter, and too black to be cool in the summer; but especially do we object to it because the wearer is always afraid of soiling it by exposure. Young gentlemen will not play ball, or pitch quoits, or wrestle and tumble, or any other similar thing, lest their broadcloth should be offended. They will not go out into the storm, because the broadcloth will lose its lustre if the rain falls upon it; they will not run because they have no confidence in the strength of the broadcloth; they dare not mount a horse, or leap a fence, because broadcloth, as everybody knows, is so faithless. So these young men, and these older men, merchants, mechanics, and all, learn to walk, talk, and think soberly and carefully; they seldom even venture to laugh to the full extent of their sides.

The cloth manufacturers and the tailors have shut us up in tight coats,

and these in their turn have shut us up in tight houses. Clothiers and tailors have woven and cut out our national character. Allow me to make the dress of a people and you may make their customs, is as just a maxim as the older proverb, "Allow me to make the songs of a people and you may make their laws." Dress affects nations as it does individuals; and when Beau Brummel exposed to his royal patron the grand secret of his life, and especially of his famous cravat—"starch makes the man"—he taught a profound and useful lesson.

There are a multitude of other subjects pertaining to general and special hygiene to which I cannot at present even allude, since I have already detained you too long; you see at least the direction in which the reform is most needed. We need for our dwellings more ventilation and less heat; we need more out-door exercise, more sunlight, more manly, athletic and rude sports; we need more amusements, more holydays, more frolic and noisy, boisterous mirth. Our infants need better nourishment than colorless mothers can ever furnish, purer milk than distilleries can manufacture; our children need more romping and less study. Our old men more quiet and earlier relaxation from the labors of life. All men, both young and old, need less medicine and more good counsel. Our cities need cleansing, paving and draining. The Asiatic cholera, the yellow fever, the plague and many other fearful epidemics are called the opprobria of our art, and our fellow-citizens upbraid us with the feebleness and inefficiency of our resources in staying their fatal progress. When will they learn that although we do fail to cure these maladies, the more precious secret of prevention is in our possession, and has been for these many years?

In conclusion, gentlemen, whether I have justly held my profession in some degree responsible for the ignorance of the people upon this subject or not—wherever the fault may lie, the fact remains that multitudes perish for the lack of that knowledge of which our libraries are the sole repositories, and which our efforts and teachings can alone supply; and while I am reluctant to add one straw to the many heavy, and often self-imposed burdens, which will rest hereafter upon your shoulders, I know you and the members of my profession generally, too well to feel any hesitation in calling your attention to any one of the claims of humanity, and in entreating you to give to this one that consideration which the magnitude of the interests involved seems plainly to demand. One moment more—

Do you hear a distant murmur of voices, and a confused sound, as of an excited multitude? This is the great battle of life waging incessantly without. Waving to and fro, a vast tide of human beings are crowding, struggling, contending for a thousand named and for ten thousand nameless objects—bearing down the feeble, trampling without mercy upon the fallen and crushing out the manliest hearts in its mighty press.

In a few days, probably, a violent and unexpected jostle—a well aimed and staggering blow upon an unprotected point—a sense of weight and irresistible pressure upon the chest, accompanied with a feeling of impending suffocation, will admonish you painfully that you have

at last entered fairly into this conflict. Now take care of yourselves. If you do not, be sure no one will take care of you. Stand firmly on your rights, no matter who disputes possession. Do your best to acquire fame, power, money—yes, get rich if you can, for nobody in this wide world has a better right, or a poorer chance than you; but, in the name of your alma mater we entreat you to contend honorably. If these things are to be attained at the sacrifice of honor, let them pass as baubles not worth the self-respect to be paid out in their purchase. Be strong and defiant even, if necessary, but never mean or treacherous. Be liberal to the poor. Be wise and prudent, but never let policy sit above conscience. By which I mean plainly, if a rich man needs your physic, give it to him, and let him pay for it; but if he does not need it, tell him, like an honest man, that his money will not buy it. Despise tricks—placebos and sugar pretences—as beneath the dignity of men. If our patrons dare not take our advice, they certainly ought to be afraid to take our medicines. And whenever you are driven to the humiliating necessity of pretending to give medicines to sane men and women, because, while they do not need it they will clamor for it, I shall advise you to abandon your profession, and look out for some occupation which will give you a more respectable and a more honorable living.

And now, gentlemen, having given you these last words of counsel and admonition, permit me, in behalf of myself and my colleagues, to bid you all an affectionate farewell!

LECTURES ON VENEREAL.

Delivered at the College of Physicians and Surgeons, of the University of the State of New York.

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LECTURE I.

Introduction: History of Venereal Diseases.

GENTLEMEN: Before entering upon the study of any class of diseases, it is an interesting subject of inquiry, how long these diseases have been recognized as such, in what light they have been regarded by our predecessors, by what means they have been combated; to ascertain, in short, their history up to the present time, and the successive steps by which the medical mind has arrived at its present stand-point of view. Such interest attaches itself peculiarly to the study in which we are about to engage, that of Venereal Diseases.

This class of affections is so striking in its characteristics, so peculiar in its manifestations, and so intimately connected with one of the strongest passions in man, that all that concerns its history naturally attracts our attention. It will frequently happen that a patient suf-

fering from gonorrhœa or syphilis, will ask you: "Where did this disease come from originally?" "Did they use to have such things in the olden times?"

Nor is the solution of these questions a mere matter of idle curiosity. It has important bearings upon several points, which are of practical importance in connection with venereal. For instance, it may assist us in determining whether the more common venereal affection, known as gonorrhœa or clap, is identical with that less frequent disease, which commences with an ulcer or chancre, and is liable to result in an infection of the constitution or constitutional syphilis. Again, there is another question, which, especially of late years, has excited a great deal of discussion, viz., whether there is more than one syphilitic virus. Daily experience shows that the effects of the syphilitic poison are not always the same; that if two men contract chancres, the sore may heal in one, and the man experience no further annoyance, while, in the other, the chancre will be followed by constitutional effects, which may be perpetuated through life and be even transmitted to his offspring. To what is this difference due; to a different constitution in the two persons, or a difference in the virus which produced the sores? And here we have the "question of the unity or duality of syphilis," as it is called. Now the history of syphilis has been brought to bear upon this question also, and let us see what is known about it.

But not to excite expectations that it is beyond my power to fulfill, I must tell you, at the outset, that the ancient history of venereal is involved in much doubt and obscurity. There are only a few points which are satisfactorily ascertained beyond question, and I shall confine myself in the main to these, since here—as throughout this whole course of lectures—I desire to impart to you what is known and certain, rather than waste time on what is vague and undetermined.

With regard to the ancient history of venereal, this fact is certain, that gonorrhœal affections were common among the oldest nations of the world. Clear descriptions of them are given in Arabic, Greek and Latin works on medicine, and even in the Mosaic books of the Bible. In the 15th chapter of Leviticus, Moses is evidently referring to gonorrhœa, when he speaks of "a running issue out of the flesh;" and the rules which he lays down for the observance of those afflicted with it, are exceedingly strict—more so, indeed, than, with the light we now possess, is necessary or desirable. That evidence of the existence of gonorrhœa should thus be found in the early history of the world, is what we might expect from our modern views of the nature of this disease. Though there are still some persons who dissent from this opinion, yet it appears to me to be established beyond a doubt, that gonorrhœa is a simple inflammation, independent of any specific virus; that it may be produced by any of the causes which excite inflammation in other tissues of the body, and that it is met with wherever intercourse is promiscuous and frequent. We should, therefore, expect that gonorrhœa would be as ancient as prostitution, and this can be traced back to the earliest times of which we have any record.

Passing from gonorrhœa to syphilis, we find our knowledge much less

perfect. Ancient authors do indeed describe ulcerations of the genital organs, and also abscesses in the groins, or buboes; but we search in vain for any clear account of constitutional syphilitic symptoms. If such existed in those days, they were confounded with other diseases, and were not traced to their primary cause. You will find, however, that authorities differ on this point, some asserting that evidence of the existence of constitutional syphilis can be unravelled from the crude descriptions of disease given by ancient medical authors, and others adopting the opinion, which I believe to be the correct one, that we have no evidence of the existence of true syphilis in ancient times, and that it is, in all probability, of modern origin. In other words, the venereal sore which I shall describe to you in a future lecture, as the simple or non-infecting chancre—and which is always a mere local disease, has existed in all ages of the world; while the true syphilitic sore or infecting chancre, and the constitutional symptoms to which it gives rise, have existed for less than four centuries.

If we now come down to the latter part of the 15th century, we shall find the first unmistakable accounts of the existence of lues venerea. It was at this period, that a fearful epidemic broke out in Italy, and thence extended over Europe. This is known as the Italian Epidemic, and is constantly referred to by writers on syphilis. The novelty of the disease to medical men of that time, and their ignorance of its pathology and treatment, are additional reasons for supposing that it was not known before to the civilized world.

The exact date of the first appearance of this epidemic is somewhat uncertain. Some authorities place it as far back as 1483; others state that it made its first appearance in 1493 or '94, at the time that a great war was waging in Italy. In this war three great nations were engaged; the French, Spaniards and Italians. In the year 1493, Charles VIII., King of France, marched into Italy with a large army to recover the Kingdom of Naples, which he claimed as his by inheritance. Ferdinand, King of Spain, of Ferdinand and Isabella memory, at this time held Sicily as part of his possessions; and, being jealous of the near approach of the French, crossed from Sicily over to Italy, together with Gonsalvo de Cordova, the great captain, and a large army, to oppose the progress of the French and aid the Neapolitans. This epidemic devastated these various armies collected on Italian soil, and on their return home, was spread throughout Europe.

I have before me a copy of a translation of Astruc's "Treatise of Venereal Diseases," published in London, in 1754. This author quotes from Jerome Fracastorius, who wrote in 1546, and who derived his knowledge from eye-witnesses of this epidemic, the following account of its symptoms: "The patient was low-spirited, complained of weariness and had a pale look; at last, for the most part, little ulcers appeared about the pudenda, which were extremely obstinate, and after they were cured in one part, broke out afresh in another. Afterward a kind of crusty pustules appeared upon the skin, beginning in some upon the scalp (which was most frequently the case), and upon other parts in others. Of these scabs there were several different kinds,

some of them small and dry, others large and moist; some of a livid color, some of a palish white, and some hard and reddish. All of them opened in a few days, and discharged a thick fetid matter, nor can it be expressed what quantity of that matter perpetually discharged, or how nasty in its quality. Afterward the ulcerated parts became eroded, in the same manner as those ulcers which are called phagedænic, and sometimes they infected not only the flesh, but likewise the very bones. When it attacked the head chiefly, it produced acrid rheums, which eroded sometimes the palate, sometimes the uvula, sometimes the jaws and tonsils; in some it destroyed the lips, in others the nose, in others the eyes, and in others the whole *pudenda*. Besides this, in a great many, the limbs were greatly deformed with gummy tumors, which frequently grew to the size of an egg, or a small loaf; and being laid open, discharged a white mucilaginous matter. But beside all the above-mentioned symptoms, as if they were only trifling, there happened violent pains of the arms, very obstinate and lasting, and excessively tormenting. They were most violent in the night, and the pain was not properly in the joints, but in the muscles and nerves. In the meantime all the limbs became feeble, and the body emaciated, the appetite quite lost; the patient had no sleep, but was either melancholy, or very passionate, with a strong inclination to lying in bed. His face and legs swelled; sometimes, though rarely, the disease was attended with a slight fever, some had a pain in the head, which was lasting, and not to be subdued by any medicines."

Such is the description of this epidemic given by eye-witnesses, and you will notice the correspondence of the symptoms with those of syphilis. Indeed, there can be no doubt but it was syphilis, either alone or combined with some other disease, which produced these fearful ravages. Still the severity of the symptoms far exceeded what is ordinarily met with at the present day, the contagious power of the disease was apparently greater, and the general constitution was more frequently involved. These facts have led some modern authors to question whether some other disease was not combined with syphilis in this epidemic, and Ricord is inclined to believe that glanders, a disease contracted from horses, had some part in its production. Some plausibility for this supposition has been found in a work on glanders, written by Lafosse, and published in Paris, in 1749. This author states that glanders was unknown to the ancients, and was first observed at the siege of Naples, in 1494.* This explanation of the character of this epidemic is an ingenious one, but I hardly think that it is necessary, and it is certainly devoid of absolute proof. Recent investigations in syphilization have shown that the syphilitic poison varies in intensity, and that it is especially destructive when brought from a distance, or when it attacks natives of a colder climate, sojourning for a time in countries bordering on the tropics. The fearful ravages of syphilis among the invading armies in the Peninsular war is an instance in point. May we not explain the severity of the Italian epidemic in a

* "Lettres sur la Syphilis," 2d ed., p. 136.

similar manner, especially if we make allowance for the exaggerations which would naturally be introduced into the descriptions of it by the invasion of a disease so new and so terrible?

But you will ask: "From whence did the Italian epidemic spring? Did the disease exist in Italy, before the invasion of these armies, or was it imported there at this time?" In reply, I would say, I cannot tell; its origin is unknown. There is, however, a supposition, though as you will see, a very improbable one, which is deserving of mention. You will observe that this epidemic arose about the time that Columbus returned from his first voyage to America, and it is probable that some of his soldiers or marines joined the army under Gonsalvo, and found their way into Italy. Now, as early as 1525, the idea was suggested that these soldiers had contracted syphilis in America, and were the means of conveying it to the contending armies in Italy; and you will find that discussions relative to this point occupy a large space in the literature of syphilis. But it is only necessary to mention two arguments against this supposition to show that it is very far from being probable. The first is that we have tolerably clear evidence of the existence of syphilis in Italy, a year or two prior to the date at which Columbus landed. The second is that those ports at which he touched on his return, and which would be most likely to be contaminated by any infection existing among his crew, were entirely exempt from the disease. We must, therefore, I think, dismiss this conjecture as untenable, and confess our ignorance of the origin of this disease, which was first known to the civilized world in the Italian epidemic, and which has ever since been one of the greatest banes of humanity.

The prevailing ideas with regard to syphilis for many years after the Italian epidemic were very vague, and the knowledge of its symptoms and modes of communication imperfect. It was supposed that it could be communicated by contact with the clothes of an infected person, or even by inhaling the air that he had breathed. Henry VIII. King of England, in 1529, accused Cardinal Wolsey, of endeavoring to infect his royal person by whispering in his ear at the confessional.

You will not expect me to enter into any detailed account of the views of the different authors who wrote on syphilis, during the three centuries which elapsed between the Italian epidemic and the commencement of the present. A careful examination of their writings shows that many of them entertained ideas which coincide with those that prevail at the present day, to a greater extent than is commonly supposed.* Thus, Fernel, physician to Henry II. of France, a man of great genius, as early as 1546, traced the order between the different stages of syphilis with a fidelity and accuracy remarkable in that age. Thierry de Herry also, in 1552, divided venereal diseases into virulent, and non-virulent or catarrhal. But the light shed upon this difficult subject by these and other eminent men was lost in the general darkness that prevailed. Gonorrhœa and syphilis were confounded, and the one supposed

* See an interesting series of articles by Ed. Langlebert, in the *Union Médicale*, 1855, entitled: "Recherches historiques sur la doctrine moderne des maladies vénériennes."

to be capable of giving rise to the other, even by Astruc and John Hunter, who wrote in the last century. The modes of communication of syphilis and the order in which its symptoms appear, were very imperfectly understood. The method of examination of cases was also very loose and defective. It was reserved for the present century, a century remarkable for its progress in all departments of science, to make equal advance in the knowledge of the nature and symptoms of venereal, and to substitute careful observation and rigid experimental inquiry in the place of theories and conjectures.

The man who has contributed most to this advance in our knowledge of venereal, and who first pointed out the defects of the old system, and introduced modes of inquiry and experiment, which in his hands and others have already produced glorious results, and are yet to produce greater, is a native of our own country. And as the name of Ricord is intimately connected with all that relates to venereal, and will be frequently referred to in these lectures, some account of his life and professional career may be acceptable to you.

"Philip Ricord was born at Baltimore, on the 11th of December, 1800. His parents were French, and educated their sons in the view of their residing in France. At a very early age, young Ricord developed a decided taste for the study of natural history, and made several voyages with his brother Alexander to South America and Columbia, for the purpose of collecting specimens, many of the most rare and valuable of which are now deposited in the museum at the Garden of Plants at Paris. He commenced the study of medicine at Philadelphia, in 1819, but was shortly obliged to suspend his course, in consequence of receiving an appointment from the French ambassador, to prepare and take charge of some specimens of natural history which he was about to transmit to Paris.

"Having made his arrangements, Ricord left this country, and arrived in France in 1820, bearing strong letters of recommendation to the celebrated Baron Cuvier.

"Soon after his arrival in Paris, he received an appointment as an assistant in the military hospital of Val-de-Grace, and shortly afterward succeeded in gaining entrance into the civil hospitals as Interne, in which capacity he was attached to the service of Dupuytren, at the Hôtel-Dieu. He passed his examination and obtained his degree in June, 1826. In 1828, he was appointed Surgeon to the 'Bureau Central,' and in 1831 was directed to take charge of the surgical wards at the Hôpital du Midi, where he has continued ever since.

"From the period of his appointment to the Venereal Hospital of Paris, Ricord has devoted the greater part of his time and attention to the study of venereal diseases, although he has not neglected general surgery and has introduced important modifications of several surgical operations." *

In order better to appreciate what Ricord has accomplished, let us

* "The Hospitals and Surgeons of Paris," by F. Campbell Stewart, M.D., Philadelphia, 1843.

compare our present knowledge and our present means of investigation, with those of thirty years ago. At the time that Ricord took charge of the Hôpital du Midi, what, for instance, was the method of examining a woman, who was suspected of having primary syphilis? She was seated upon the edge of a chair, with her thighs apart, and the vulva and all of the vagina, that could be exposed by separating the labia, was inspected. If no chancre was apparent on this examination, she was supposed to be free from primary syphilis. As Ricord wittily remarks in his lectures, "the labia minora were looked upon as the Pillars of Hercules, beyond which no mortal dared venture." But how large a mucous surface, subject to syphilitic ulcerations, did this superficial examination leave unexplored! Is it to be wondered at that a discharge, excited and kept up by a chancre deeply seated in the vagina or on the os uteri, was often mistaken for a simple gonorrhœa, and false inferences deduced as to the power of a clap to give rise to syphilis?

Récamier, at this time, had already revived the use of the speculum, but it had not been applied to the diagnosis of venereal diseases. Indeed the presence of any venereal affection was generally considered as a contra-indication to its employment. Ricord, however, had the foresight to perceive what light the use of this instrument would throw upon many questions still involved in obscurity. He introduced it at once into the hospital under his charge; all the female syphilitic patients were examined by it, and thus an invaluable addition was made to our means of diagnosis of venereal diseases, which was at once generally received and adopted by the profession.

But in addition to this improvement introduced by Ricord, there was another of no less importance, which was first insisted upon by him as it deserved. The fact had long been known that chancres might arise on any part of the body, or within any opening of the mucous canals, within reach of the application of the syphilitic virus, but this was too often forgotten in the examination of patients. The idea, that still prevails with the public, that the genital organs have an exclusive right and title to primary venereal manifestations, very generally prevented a thorough search being made over all parts of the body accessible to direct observation. In this way, many chancres situated upon the fingers, upon the lips, upon the breasts, at the margin of the anus, within the rectum, urethra and mouth, or elsewhere, were entirely overlooked, and false conclusions often drawn as to the origin of constitutional syphilis.

For the generalization of inoculation, as a means of diagnosis, we are also indebted to Ricord. Experimental inoculations had, indeed, been practised before his time by Bru, Hernandez, Hunter, etc.; but where these surgeons performed them by tens, Ricord performed them by thousands—while these surgeons limited them to the determination of one doubtful point, Ricord extended them to throw light upon all questions of interest connected with venereal. By means of artificial inoculation, Ricord placed the distinct nature of gonorrhœa and syphilis beyond a doubt—a fact, which up to this time, had not been clearly settled. He

thus, too, was enabled to establish the existence of a syphilitic virus and the contagious character of virulent buboes. These, gentlemen, are but some of the gifts, for which we are indebted to Ricord.*

Do not forget them, when you hear him assailed by opponents, who are often disposed to treat him uncourteously and unjustly, who often represent him unfairly, and who are wont to compare his early opinions, long since publicly abandoned, with his recent views, and, by such a course, which it is unnecessary for me to stigmatize, to convict him of inconsistency. If you find that some of his earlier opinions, which he expressed in the form of "laws," are not so immutable as he once believed them to be, make some allowance for the ardor of an enthusiast; do justice to the frankness which has led him to modify his opinions as his experience and knowledge have increased; do not be easily led to throw aside as valueless the knowledge acquired during the last half century out of a mere spirit of partisanship, and respect and honor the man who has introduced a precision and accuracy in our diagnosis of venereal cases—at present so generally adopted, that we are likely to forget the source from which they came—and on which we must rely for our future advance in the knowledge of this subject.

This short sketch of the history of venereal, requires some account of the modern doctrines and practice of syphilization, to render it complete; but this subject will be more intelligible to you at a later period of our course, and I propose to defer it till then, when it will be considered in connection with other points, of less practical importance than those that will first engage our attention.

Gentlemen, there is no subject connected with medicine or surgery, upon which there is a greater dissonance of opinion than upon syphilis; none in which you will be called upon to exercise more judgment and discrimination in forming your conclusions. It would appear as if that vague cloud of uncertainty which fills the mind of a venereal patient with dim phantoms, had not wholly spared the medical mind, when called upon to investigate this subject. The most improbable theories are often received as facts. The necessary analysis of cases is often ignored. Distinct affections are confounded under one head, and an immense amount of time and labor wasted in the attempt to determine whether this treatment or that is best adapted to them! The philosophic method of inquiry which has contributed so much to the present century, cannot be laid aside in this, any more than in other branches of knowledge. Through it alone, is any advance to be expected.

I cannot anticipate, amid so many conflicting opinions, to be always so fortunate as to select the right one. I can only promise you to do my best, and, avoiding as much as possible discussion on points which are yet undetermined, convey to you such information as I believe to be fixed and settled.

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* See the "Traité Pratique des Maladies Vénériennes," by MM. Maisonneuve and Montanier, p. 9 et seq.

LECTURE II.

Gonorrhœa—Synonyms of—Varieties of—Urethral Gonorrhœa in the Male, its Causes and Symptoms.

GENTLEMEN: We may define venereal diseases as those affections which have their origin directly in sexual intercourse. They are chiefly two in number—gonorrhœa and syphilis. For more than three centuries after the Italian epidemic, these diseases were generally regarded as identical, both in their nature and in the treatment which they require. It is now clearly proved, however, that they are entirely distinct, and that they have nothing in common independently of the act in which they originate. Gonorrhœa, uncomplicated with a chancre, can never give rise to syphilis in any form; the secretions of syphilitic ulcerations can produce a gonorrhœa, only when they act as common irritants.

A contrary opinion is, indeed, still maintained by some few authorities; but if you inquire of such men what their practice is, you will find that they always treat gonorrhœa as a simple inflammation. In practice, therefore, all agree that these two diseases are distinct; and the proof that this distinction is radical and absolute is now, I believe, too great to admit of a doubt.

Gonorrhœa.—By far the more frequent venereal disease is an affection of certain of the mucous membranes, a prominent symptom of which is a secretion or discharge from the diseased surface. At different times and in different places, this disease has received different names, founded on the prevailing ideas as to the nature of this secretion. At an early period in the history of venereal, it was supposed to consist of semen, and hence the disease was called gonorrhœa, from γονη, sperm, and ῥεω, to flow. This name is still in use among American and English writers, in spite of the erroneous supposition in which it originated. The French call the same disease *blennorrhagie*, which means a flow of mucus; a name which is also erroneous, since the discharge does not consist of mucus alone, but of a mixture of mucus with pus. In popular language, it is termed clap by the English, and *chaude-pisse* by the French.

The chief, if not the only mucous membranes, subject to gonorrhœa, are those lining the genital organs in the two sexes, and the conjunctiva oculi. Gonorrhœa of the anus, mouth, nose and external ear are, indeed, mentioned by authors, but the existence of all of them is more or less doubtful. Perhaps there is the least question in admitting gonorrhœa of the anus, though the disease is said to be rare even in countries where unnatural practices are frequent; but we can hardly admit under this head, those cases in which the anus is simply excoriated by the discharge flowing from the urethra or vulva, without extension of the disease to the rectum.

Reported cases of gonorrhœa of the mouth, nose and external ear are very few in number, and are all open to serious question; as, for instance, the supposed case of gonorrhœa of the nose, reported by Mr. Edwards, in the London *Lancet*, American edition, June, 1857, in which it is very doubtful whether the disease was of this origin and not

a simple catarrhal affection. M. Diday reports some experiments bearing on this point, though we are surprised, in reading them, that any surgeon should presume to make them, or any patient submit to them. M. Diday says: "Frequently (eight or ten times at least), for the purpose of experiment, I have moistened the end of my finger in the urethral discharge of patients with gonorrhœa, when the disease was in its most acute stage, applied it within their nostrils and rubbed it into the nasal mucous membrane, and there has never resulted the slightest degree of inflammation in the part."—*Annuaire de la syphilis, année* 1858.

But when we recollect how frequently a disregard of cleanliness must cause the application of gonorrhœal matter to the nostrils and lips, and how readily such applications excite inflammation of the ocular conjunctiva, the great rarity of suspected cases of nasal and buccal gonorrhœa must convince us, without the necessity of such experiments as these, that certain mucous membranes are more apt to contract gonorrhœa than others; and in this we may find an analogy to an extraordinary fact which has recently excited much attention, viz., that all parts of the body are not equally susceptible of the two varieties of chancre; the soft chancre never being met with upon the head or face, although it may be implanted there by artificial inoculation. The reason of this preference of these diseases for certain localities escapes us, but they are not the only instances of the kind to be met with.

The symptoms and the treatment of gonorrhœa vary according as the disease exists in the male or female, and according also to the portion of the mucous membrane lining the genital organs which it attacks; it will be convenient, therefore, to consider this affection under corresponding heads.

URETHRAL GONORRHŒA IN THE MALE.

Men are more liable to contract gonorrhœa than women; and of a given number of cases of the disease in the former, in a large proportion you will find that it is the urethra which is affected. Cases of urethral discharge in the male outnumber all the other forms of gonorrhœa in the two sexes combined. The greater frequency of this disease in the male sex is explained by an examination of the causes which produce gonorrhœa, from which it appears that it is not necessary for one person to have a discharge of venereal origin to communicate such a discharge to a second person by cohabitation; any acrid discharge from the genital organs is sufficient to produce it. Now, men rarely have such discharges independently of contagion, while in women, the menstrual flow, leucorrhœa or the normal secretions of the vagina, are often sufficiently irritating to excite an attack of gonorrhœa in men who have intercourse with them. In short, a man rarely communicates gonorrhœa to a woman, unless he has it himself; while, strange as it may appear, most women who communicate gonorrhœa to men, do so without having it.

If, when the opportunity offers, you will examine the genital organs of women who have given gonorrhœa to your male patients, you will be surprised to find in how many of them there is but little to account

for its origin. In the great majority of cases, a vaginal examination will reveal the existence of only a small amount of leucorrhœa; and the previous history of the woman will show that this is not the termination of a preceding attack of vaginal gonorrhœa. In some cases, also, you will find absolutely nothing to explain the origin of the disease in the male. The genital organs will be entirely free from discharge, and present in all respects the aspect of health. Further inquiry into the history of the case may throw light upon it, by showing that at the time of sexual congress, one or both persons were heated with wine, the woman had her menses upon her, or the act was frequently performed; for all these causes are sufficient to excite urethral inflammation, especially in men who are predisposed to it. In the absence of any apparent exciting cause in the female, we are forced to suppose the existence of an acrid character in the secretions of her genital organs, aided by a peculiar susceptibility in the male to affections of this nature.

Before examining women in such cases as we are now considering, it is important to satisfy ourselves that they have not passed their urine nor used injections, nor even bathed the parts for several hours previous, lest all traces of a discharge may temporarily have been removed; and particular attention should be paid to the condition of the urethra, for reasons which will be evident when we come to speak of gonorrhœa in women. The following cases will illustrate the remarks already made on this subject.

Case 1.—The first case that called my attention to the possibility of a urethral discharge arising in the male, from intercourse with a woman not affected with gonorrhœa, occurred while I was in Paris. A fellow-student had been living with a mistress for nine months, when he found himself attacked with all the symptoms of gonorrhœa. He had had connection with no other woman, and accused his "friend" of having been false to him, and of having contracted a disease which she had communicated to him. She indignantly denied the charge. He examined her by means of the speculum and could discover nothing abnormal. Not satisfied with this, however, he had her examined by Ricord's Interne, at the Hôpital du Midi, who equally failed to discover anything whatever to account for his disease. He continued to suffer from a urethral discharge for about six weeks.

Case 2.—A gentleman whom we will call Mr. B. applied to me one Thursday in the fall of 1852, with all the symptoms of a commencing gonorrhœa. I had known him for several years, and could place implicit reliance on his statements. He told me what indeed I knew before, that he had had an attack of gonorrhœa two years before, and none since that time. For the preceding three months he had been in the habit of having connection with a certain woman of the town, twice a week, and with no other. His last connection was three days before. At his request I examined this woman, and found no inflammation of the urethra nor of the vagina, and simply a transparent jelly-like secretion from the os uteri. I treated my patient by the abortive method. By the following Monday, he was free from all discharge, had connection with the same woman that day, and continued his

intercourse with her for two months afterward without any recurrence of his symptoms.

Case 3.—Mrs. M. had been the kept mistress of a man for six years. Mr. C., the man who kept her, had but little sexual power, had been subject in former years to frequent seminal emissions, and before his present alliance had suffered from gleet for eighteen months. Mrs. M. had been under my care for congestion of the os uteri, and uterine appendages, and had slight uterine leucorrhœa. Mr. C. was absent from the city for several weeks. The day that he returned Mrs. M. was just recovering from a menstrual period, which did not prevent his having intercourse with her. Three days after he was attacked with gonorrhœa, which lasted two months. I examined Mrs. M. after this occurrence, and could discover no increase of the symptoms which I knew she had had for several months. It so happened that Mrs. M., in addition to Mr. C., had a friend, Mr. F. This man had had connection with Mrs. M. once or twice a week for the last six weeks, and continued to do so after Mr. C. was infected; yet he suffered no inconvenience, though he took no precautions to avert contagion.

These cases are sufficient to illustrate the frequent origin of gonorrhœa in the male from simple causes, and many more might be added to them. The cases of which I have notes, or which are still fresh in my memory, and in which I have felt absolutely sure that I was examining the identical woman from whom my patient contracted his disease, now amount to twenty; and in only one of these women have I found acute vaginitis or urethritis. It should be stated, however, that these observations have all of them been made upon kept women, or the better class of prostitutes; among the lower classes the proportion of cases of simple origin would probably be much smaller.

These views with regard to the origin of gonorrhœa in the male, are confirmed by many observers, and especially by Ricord. This author says in the third of his *Lettres sur la syphilis:* "Frequently the menstrual fluid appears to have been the only cause of the disease; and in very many cases, we can ascertain no cause at all, or can ascribe it only to imprudence in diet, fatigue, excessive sexual congress, the use of certain drinks, such as beer, or certain articles of food, as asparagus. It is often the case that women free from gonorrhœa give this disease to men." Again, in his notes to Hunter, he says, "I can assert without fear of contradiction, that women give one hundred claps where they receive one."

The bearing of these facts upon the question as to the nature of gonorrhœa is evident, since they clearly exclude the idea of a specific virus. Their importance, when deciding on the character of persons whose morality is called in question, is also obvious. But, it may be asked, if this be true, why do not men acquire gonorrhœa from intercourse with their wives? I reply that such cases do occur, especially among newly married persons, by whom the conjugal act is apt to be indulged in to excess, or during the menstrual period; and it is in such cases as these, that upon the decision of their medical adviser, the reputation and happiness of those committed to his charge will often depend. That gonorrhœa does not more frequently occur in married

life, is in accordance with a law established by nature, that intercourse limited between one man and woman, carries with it a certain degree of immunity. As Ricord expresses it: *acclimation* is acquired. Hence it often happens that a man who is habitually living with a woman may be free from disease, while she may excite a gonorrhœa in another man, who has connection with her for the first time.

Case 4.—A gentleman of this city, six weeks after his marriage, applied to his family physician to be treated for gonorrhœa. He declared most positively that he had not been faithless to his wife, and his character was such as to render his statement probable. Supposing that his disease could only have arisen from contagion, he had already accused his wife of infidelity, and now threatened to procure a divorce. His physician pacified him, and, on examining the wife, found her to be perfectly sound. Further inquiry explained the case by showing that intercourse had been continued during a menstrual period.

The following case is reported in a work entitled, "*Sur la non-existence de la maladie vénérienne*," which was published in Paris in 1812.*

Case 5.—A young man was married to a young woman after several years of mutual attachment. Some months after marriage, the husband was obliged to take a journey to a distance. While travelling he experienced pain in passing water, and soon after discovered a discharge from the urethra. On arriving at his journey's end, he consulted an eminent surgeon, who told him that he had the gonorrhœa. "But," said the man, "I am but lately married, and have never known any other woman but my wife in my life." The surgeon laughed at him, told him he had heard such stories before, and assured him he had a genuine clap; still he protested his innocence. Some days after his testicle swelled. The surgeon now told him that either his wife was not virtuous, or that he must have had connection with another woman, and that the "pox was now in his blood." Confident of his own purity, he took the other alternative and condemned his wife. He wrote her an indignant letter, took a pistol and blew out his brains. The unfortunate woman, on receiving his letter, submitted to an examination, which proved her to be free from disease, shortly after miscarried, and died. So much for the honor of our noble profession.

A gouty or rheumatic diathesis sometimes gives rise to gonorrhœa, especially in old men, and this independently of sexual intercourse. I have never met with an undoubted case of this character, but unquestionable instances of it are reported by various authors, and the possibility of such occurring should not be forgotten. Among other alleged causes of gonorrhœa, we find, the use of bougies, masturbation, prolonged excitement of the genital organs, ascarides in the rectum, the influence of dentition and even epidemic influences. M. Latour, editor of the *Union Médicale*, the French medical journal in which

* I have copied this case, with some abridgment, from the lectures of Mr. Skey, *London Medical Gazette*, 1839.

Ricord's letters on syphilis first appeared, vouches for the truth of the following case:

Case 6.—A physician, thirty years of age, had been continent for more than six weeks, when he passed an entire day in the presence of a woman whose virtue he vainly attempted to overcome, but who resisted all his approaches. From ten o'clock in the morning until seven in the evening, his genital organs were in a constant state of excitement. Three days afterward he was seized with a very severe attack of gonorrhœa, which lasted for forty days.

Enough has been said to show that gonorrhœa is not always dependent upon impure connection. I have dwelt somewhat at length upon this point, because I believe it to be of great practical importance and not sufficiently insisted on in most works on venereal. You may inquire whether a case of gonorrhœa arising in this way differs in its course and symptoms from one which is due to direct contagion. I reply that, as a general rule, I believe it will be more amenable to treatment; but this is far from being invariably the case. The disease may continue for months, and be attended with inflammation of the testicle, or any other complication of urethral gonorrhœa. Some of the most obstinate cases of gonorrhœa that I ever had to treat, proceeded from connection with women who had simple leucorrhœa.

You will observe that I have omitted all mention of a specific origin of gonorrhœa, yet you will frequently meet with the statement in works on venereal, that the syphilitic virus, in virtue of its specific character, may, by contact with the mucous membrane of the genital organs, excite a discharge, which in such cases is a form of primary syphilis; or that the same virus, after constitutional infection, may produce a running as a constitutional or secondary effect. This assertion is entirely untenable. The experiments of Ricord and others have demonstrated that the discharge from a mucous surface, free from ulceration, never possesses the power of producing a chancre on inoculation, which would be the case if gonorrhœa and syphilis were convertible. Virulent pus can produce a discharge from a sound mucous surface only when it acts like any ordinary irritant, and constitutional infection can predispose to gonorrhœal discharges only by depressing the vital powers, or excite such discharges through the irritation set up by secondary eruptions situated on the mucous membranes. In connection with this subject it is important to recollect the occasional occurrence of urethral chancres which produce a discharge from the canal liable to be mistaken for a simple gonorrhœa; but of this more hereafter.

Symptoms.—We come now to speak of the symptoms of urethral gonorrhœa in the male. These first show themselves, as a general rule, between the second and fifth day after exposure. In exceptional cases they appear as late as the seventh or tenth day, but their supposed occurrence after this time, as stated by some persons, is, I believe, due to the case not having been carefully observed from the outset. At first, the symptoms are very slight, consisting only of an uneasy or tickling sensation at the mouth of the canal, which on examination is found to be more florid than natural and to be moistened with a small quantity of colorless and viscid fluid, which glues the lips of the meatus

together. This moisture of the canal gradually increases in amount, until on pressure a drop may be made to appear at the orifice. At the same time it begins to lose its clear, watery appearance, and assumes a milky hue. Examined under the microscope, it is found to consist of mucus with the addition of pus globules; the number of the latter being proportioned to the depth of color of the discharge. Meanwhile, some smarting in the anterior portion of the canal during the passing of the urine is felt by the patient.

Such are the symptoms of the early stage of gonorrhœa. The exciting cause of the disease has been applied to that portion of the canal which lies near the orifice of the meatus and which was chiefly exposed to contagion, and the ensuing inflammation is gradually lighted up in this part, and has not yet extended beyond that portion of the urethra known as the fossa navicularis. This early stage of gonorrhœa is often called the stage of incubation. This name is objectionable because the inflammatory process is doubtless set up at the time of the application of the exciting cause. Time is required for it to produce its full effect, and the earliest symptoms are slowly and gradually ushered in. A more appropriate name is the first or preparatory stage. It is important to recollect the symptoms of this stage and the fact that the disease is as yet confined to the external portion of the urethra, since, as we shall see hereafter, a more rapid method of cure may now be resorted to than is admissible in the subsequent stages.

The first stage of gonorrhœa usually lasts from two to four days. The symptoms gradually increase in intensity, until, in about a week after exposure, the second or inflammatory stage may be said to commence. If we examine the penis during this stage, we find the mucous membrane covering the glans, reddened and with an angry look. The whole extremity of the organ is swollen so that the prepuce fits more tightly than is natural. In some cases the latter is puffed out by œdema in its cellular tissue, and phymosis may exist, rendering it impossible to uncover the glans. The inflammatory blush is especially marked in the neighborhood of the meatus, the lips of which are swollen so as to contract the calibre of the orifice. The discharge has now become copious, so much so in some instances as to drop from the meatus as the patient stands before you. It is thick, of a yellowish cream color, and not unfrequently tinged with green. This greenish hue is due to the admixture of blood corpuscles, as is the case with the sputa in pneumonia, and the corpuscles may be sufficiently numerous to produce the characteristic color of blood. The penis generally, and especially upon its under surface over the course of the canal, is sensitive and tender on pressure.

The patient complains of intense pain while passing his urine, and this is not confined to the anterior part of the canal, but is now felt in all that portion of the organ anterior to the scrotum, or is even more deeply seated. The severity of the suffering during this act is in some instances very great. The pain is compared to the sensation of a hot iron introduced within the canal, and the popular name, *chaude-pisse*, given to the disease by the French, is fully justified. This pain is excited in part by the irritation produced upon an abnormally sensitive

membrane by the salts contained in the urine, but chiefly, I am inclined to think, by the distension of the contracted and sensitive canal by the passage of the stream. Hence, during the act, the patient involuntarily relaxes the abdominal walls, forces the air from his lungs, and keeps the diaphragm elevated, in order to diminish the pressure upon the bladder and lessen the size and force of the stream of urine. In consequence also of the urethra being contracted and more or less obstructed by the discharge, the stream is often forked or otherwise irregular.

Another source of suffering in this stage of gonorrhœa is the nocturnal erections, which are apt to come on after the patient is warm in bed. The disease has rendered the genital organs highly sensitive, and they are readily excited by lascivious dreams and the contact of the bed clothes; or, independently of such exciting cause, they assume a state of erection which in health is more apt to occur during sleep. When thus excited, it will often be found that the penis is bent in the form of an arc with its concavity downward. This condition is known as chordee. Its explanation is very simple. The urethra, the chief seat of the inflammation, runs along the under surface of the penis. Plastic lymph is effused around this canal, gluing the tissues together and rendering this portion of the penis less extensible than the remaining portion composed of the corpora cavernosa. Hence, in a state of erection, the corpus spongiosum surrounding the urethra, not being able to yield to the distension, acts like the string of a bow, and chordee is produced. The stretching of the parts thus adhering together excites pain, which is often very severe. The sufferer, awaking from sleep, instinctively grasps the penis in his hand, and bends it in a still smaller curve, so as to remove the strain from the under surface and thus ease the pain. It not unfrequently happens that during one of these attacks of chordee, the mucous membrane of the urethra becomes lacerated and hemorrhage takes place from the canal. In this way nature may produce local depletion, and, if the flow be not excessive, the effect is often beneficial.

The above explanation of the mechanism of chordee is the one usually received, though it is proper to state that it is rejected by Mr. Milton, who believes that chordee is due to spasm of the muscular fibres, which Mr. Kölliker and Mr. Hancock have shown to exist around the whole course of the urethra (Milton on Gonorrhœa, p. 75.) I am not convinced that the generally received opinion should thus be laid aside, though it is highly probable that spasmodic muscular action plays some part in the production of the frequent erections and chordee which take place in gonorrhœa.

During the inflammatory stage of gonorrhœa abscesses sometimes form in the sub-cutaneous cellular tissue over the urethra. I have never met with them except anteriorly to the scrotum, but authors state that they sometimes occur in the perineum. If left to themselves and not opened early, there is danger of their breaking externally and also internally into the canal, thus giving rise to a urinary fistula.

It is also chiefly during the second stage of gonorrhœa that buboes are met with, if they occur at all; for they are rare compared with the number of patients afflicted with this disease. They are at once recog-

nized by the physician and patient by the enlargement and tenderness of a single gland in the groin, occasioning considerable pain and uneasiness in walking and standing. Buboes attendant upon gonorrhœa, uncomplicated with chancre, are sympathetic buboes; and a fuller description of them will be given hereafter when speaking of buboes in general. They may generally be made to disappear in a few days by keeping the patient quiet and producing a little counter-irritation by painting the skin over them daily with tincture of iodine.

Do gonorrhœal buboes ever suppurate? It is generally admitted that they may in rare instances, "in persons disposed to glandular engorgements, in consequence of a lymphatic temperament or a scrofulous diathesis" (Ricord, Notes to Hunter); though so high an authority as Diday states that he "does not believe in the existence of a bubo susceptible of suppuration, produced by gonorrhœa" ("Nouvelles Doctrines sur la syphilis," p. 187). I have met with several instances of suppurating buboes coexistent with gonorrhœa, and apparently dependent upon it alone, but it has so happened that in all these cases the patient was not under my observation during the early stage of his disease, and I could not be certain that he had not had a chancre. Admitting, however, that gonorrhœal buboes may suppurate, of one thing you may be certain, viz., that the pus from them is never capable of producing a chancre on artificial inoculation.

Inflammation of the lymphatic vessels running along the dorsum of the penis is still another complication of the acute stage of gonorrhœa, and one which is also met with in connection with simple chancres. It is to be carefully distinguished, as we shall see hereafter, from the induration of these vessels which often attends an indurated chancre. "It occupies the same vessels and the same situation, and presents the same forms as the latter; but is distinguished from it in several ways: 1. By its feel, which is like that of an hypertrophied cord, elastic but not cartilaginous. 2. By the fact that the cellular tissue uniting the vessels generally participates in the inflammation, and thus binds together in a large cord the dorsal vein, the lymphatics and the artery, rendering it difficult to distinguish the inflamed lymphatics from the blood vessels. 3. By the pain, generally severe, which it excites, and by the swelling and redness visible over the course of the inflamed vessels, caused by the extension of the inflammation to the skin."* This inflammation of the lymphatics on the dorsum of the penis is said to sometimes give rise to chordee, with the concavity of the arc looking upward.

The second stage of gonorrhœa, which we have now described, is variable in its duration in different subjects. As a general rule, it lasts from one to three weeks, being influenced by the constitution of the individual, his mode of life and the number of his previous attacks. It is succeeded by the third stage or stage of decline. This final stage of acute gonorrhœa is marked by no peculiar symptoms, and is characterized only by the disappearance of the more acute symptoms and a gradual return to a condition of health. The discharge runs through

* Bassereau: "Affections de la Peau symptomatiques de la Syphilis," p. 160.

the same phases, in an inverse order, which it did at the outset of the attack. It gradually becomes less and less purulent, and finally is almost entirely mucous, before entirely disappearing.

Perhaps the most valuable indication of the ushering in of this stage of gonorrhœa is the marked diminution or entire cessation of the pain in passing water. The painful erections and chordee may continue for some time after the acute inflammation has subsided, since it takes time for the plastic matter effused around the urethra to be absorbed.

We have reason to believe that in the course of an attack of gonorrhœa, the disease gradually extends from the outer to the deeper portions of the canal, and it is in this latter situation that it is prone to lurk for an indefinite period. After the discharge has lasted for several weeks, we may evacuate the whole of the spongy portion of the urethra by pressure from behind forward in front of the scrotum, and then, when no further discharge can be made to appear, we can still produce it by the exercise of similar pressure on the perineum. As we shall see hereafter, the inflammation may even extend to the mucous membrane of the bladder.

The duration of the final stage of gonorrhœa is, as a general rule, longer than either of the preceding. It may be cut short by treatment, but, if left to itself, commonly lasts for weeks or even months. Gonorrhœa is a disease which, independently of treatment, rarely terminates in less than three months.

Thus far I have said nothing of the reaction of this disease upon the general system. This varies greatly in different individuals and in different attacks in the same person. In some rare cases there is considerable febrile excitement during the inflammatory stage, marked by the usual symptoms of headache, dry skin, full pulse, furred tongue, etc. As a general rule, however, there is but little constitutional disturbance, and after the acute symptoms have passed, the tendency of the disease invariably is to depress the general health. This fact should be remembered in the treatment.

A first attack of gonorrhœa is usually more acute than subsequent ones; the latter often being subacute or chronic from the first. They are also more difficult to be influenced by remedies and show a decided tendency to run into a gleet.

Cases of gonorrhœa have been reported, in which it has been said there was no discharge whatever—all the other symptoms of gonorrhœa being present, and the disease following impure coitus. These have been called cases of dry gonorrhœa. I doubt whether there be a total absence of all secretion in these cases throughout their whole course, but can readily conceive of an inflammation of the mucous membrane of the urethra, resembling that of erysipelas upon the skin, in which the secretion is for a time but slight, and incapable of detection except by a careful examination of the urine. As the inflammation subsides, however, I should expect to find distinct traces of a discharge. We have analogous symptoms to these occasionally in inflammations of the pituitary membrane of the nose. You will find two cases of this variety of gonorrhœa reported by Dr. Beadle in the *New York Journal of Medicine and Surgery*, for October, 1840.

SOCIETY REPORTS.

NEW YORK PATHOLOGICAL SOCIETY.

REGULAR MEETING, MARCH 9, 1859; DR. DALTON, PRESIDENT.

Reported for the New York Journal of Medicine,

BY GEORGE F. SHRADY, M.D.

Dissecting aneurism of the aorta.—Dr. Clark presented a specimen and gave the history as follows: The gentleman from whom this heart was taken was a patient of Dr. Van Kleek. I saw him four years ago for the first time. I then learned that he had been ill for three months, previous to which he had enjoyed as good health as other persons of his age, he being sixty-five years old. What he complained of this time was that he was subject to attacks of insensibility, which would come upon him suddenly, and cause him to fall down. So frequent did these attacks become, that his friends would not allow him to go out without an attendant, for fear that he would injure himself by falling. At the time I saw him he kept in the house most of the time, by way of precaution. He complained of a little disturbance of the heart's action. I, with the doctor, had an opportunity of seeing some of these peculiar attacks. The patient would be conversing, when suddenly his speech would cease in the middle of a sentence, in a moment his face would grow pale, his eyes be closed, and his chin drop upon his chest. He would remain in this position for a few seconds, when he would gradually wake up, the color would slowly come to his cheeks, his eyes open, then his head would begin to move, and taking a long, full inspiration, he would resume the position in which he was before the attack, and take up the sentence that had been broken and go on with it as if nothing had happened. These attacks occurred in such a way, and so frequently, that we were enabled to study the phenomena with some precision. Having found already some hypertrophy and valvular murmurs of the heart, I listened during one of these attacks, and would sit by the side of the patient, and with the ear to his chest, listen to his heart for fifteen or twenty minutes at a time while he was engaged in conversation. I would notice that the heart's action would suddenly cease. I would then raise my finger, and Doctor Van Kleek would notice that the fainting paroxysm would commence to show itself, and he would cease his talking, and after an interval of little less than fifteen seconds, *the heart* would commence to beat again. I would then raise my finger to the doctor, when the latter would observe that a little redness would come to the face, the head begin to move, and the patient would slowly wake up. We settled that point to our entire satisfaction.

This particular feature of his disease continued for eleven months,

the symptoms of general disease of the heart not rapidly increasing. I saw him about a year before his death, three years after the first visit, with Dr. Van Kleek, when he was suffering from a very harassing cough, considerable dyspnœa and abundant expectoration. The murmurs were then substantially the same as at the first visit. The measurements of the heart at that time were as follows: From the median line along the left third rib, four inches; on the fourth rib, five inches; from median line to apex, four and a half inches, making each of these measurements about an inch more than usual. The cough was so troublesome and the expectoration so abundant, that it was difficult for his non-professional friends to believe that he had not consumption. This profuse bronchorrhœa continued with more or less of dyspnœa till his death.

This latter event occurred in the following manner: About four days ago he suddenly felt a sense of sinking and distress, and called to his wife, who was by, to give him something, quick; she called the doctor, who was in the house at the time, but when he arrived at the chamber he found the patient already unable to speak, with his pulse feeble, and sinking into a kind of collapse. In this state he remained for two hours, when he ceased to breathe.

Autopsy.—At the *post-mortem* examination this heart was obtained. We found that the pericardium was filled with dark-colored fluid, which we judged, through the walls of the membrane, to be blood. We took care to estimate what was the quantity of this blood, and in the next place where it came from. The fluid was removed by sponges and was found to weigh 10 ounces. The clot which was found to equal the fluid blood in quantity was not disturbed until the whole organ was removed. We may say that there was from 20 to 22 ounces of blood in the pericardium. The next step was to find where it came from; there was no very great difficulty in determining that point. We found that there had been a rupture of the internal coat of the aorta, at a point nearly an inch above the aortic valve, and in the immediate neighborhood of this opening were patches of atheromatous deposit. The rupture was about an inch and a half in extent in the circumference of the artery, splitting the layers of the middle coat, passing around the base of the aorta, penetrating all the coats, and escaping through the pericardium by a minute opening scarcely large enough to admit a small-sized probe. The opening was somewhat more than an inch below the original rupture. As regards the cause of the suspension of the heart's action, it is difficult to determine. The heart has undergone fatty degeneration, but not in an extreme degree. The mitral valve is the seat of calcareous deposit on its anterior and posterior margin; the aortic valves are also the seat of the same kind of degeneration.

Now it does not appear after this examination whether this interruption of the heart's action was due to inelastic state of the aorta, to fatty degeneration of the organ, or some undiscovered change in the nerves supplying the organ. The termination of the case was purely an accidental one.

There is another interesting feature in the case, viz., a very extensive calcareous deposit between two folds of the pleura. This plate was about five inches in length, by three and a half to four inches in breadth. The two surfaces of the pleura in that situation were united, and seemed to have been so for a long time. There was no tuberculous disease of the lungs. The attacks of syncope occurred in any position of the body, in the standing, sitting, or recumbent posture. I have seen a good many hearts the seat of fatty degeneration, but never before any one that presented this peculiar symptom.

REGULAR MEETING APRIL 13TH, 1859.

Œdema of glottis from syphilitic ulceration of larynx..—Dr. James, R. Wood presented a specimen of the *larnyx and trachea* of a man sixty years of age, with the following history. About five years ago the patient contracted chancre, which in the course of time was followed by secondary disease of the throat. A few days ago he entered Bellevue Hospital with stridulous breathing, and cough, and all the physical signs of ulceration about the glottis. On Saturday, at my clinic, the House Surgeon called my attention to him. I made an examination and told my class that the patient was suffering from syphilitic disease of the throat with more or less œdema about the glottis. Upon examining the chest, I discovered the physical signs of tubercle. I recommended that he should be placed under treatment, with fumigations of cinnabar, also giving directions that he should not be left alone, as he was liable to die at any moment. The prescription was given repeatedly, but the precaution of close watching was not followed out, for on Sunday morning he took himself to the water closet, suddenly became faint, was carried to the bed, and found to be dead. He died without any warning.

Autopsy.—On making the post-mortem examination, there was found to be a good deal of serous infiltration of the sub-mucous cellular tissue in the neighborhood of the glottis, in the cellular tissue above the epiglottis, and around it ; and also a considerable deposit of lymph. The arytenoid cartilages and mucous membrane in the vicinity were ulcerated. This point was œdematous, hung over the glottis and closed it up.

This case, Mr. President, would have been relieved and probably cured if the operation of tracheotomy had been performed. I have cut into eleven tracheæ for syphilitic disease, and only two died ; the others all recovered. During my first service at Bellevue, the syphilitic patients were under our care ; at that time tracheotomy was looked upon as an almost uniformly successful operation. I recollect two instances where tracheotomy was performed without there being sufficient trouble at the time to warrant it, with the view in the first place of preventing sudden death, and in the second place of allowing the organs to become passive that the treatment might be better carried on.

I believe it is good practice, and that this man might have been saved had the operation been performed.

" *Cranio-tabes.*—Dr. Krakowitzer presented a specimen of cranio-

tabes, with the following history: The child from which this specimen was taken was born on the 19th of last September, and I saw it about two days after, when I called on the mother for trouble of the breast. The father is a healthy man; the mother, however, is a little delicate, and very hysterical, otherwise she is quite healthy. The child was never a strong one, always pale, never with a very good digestion, and was brought up by Borden's condensed milk. I saw the child off and on quite frequently; it was generally brought to my office. The main complaint was that the child was very costive, frequently going for three or four days without a passage; as a consequence of this, it would become very restless. I administered simple injections, and occasionally gave rhubarb and magnesia; a passage from the bowels would be the result, and the child would become more quiet again. It adapted itself pretty quick to the artificial nourishment, and grew pretty strong, but never showed that exuberance of animal spirits that is common with children. I saw the child on the 19th of January, when I vaccinated it; the vaccine took its regular course. About three weeks afterward I was called to attend the child, and found her suffering from a moderate amount af catarrhal inflammation, which subsided, under treatment, in a couple of days. At this time I noticed a peculiar conformation of the child's head. There were four well-marked protuberances occupying the anterior thirds of the parietal and the posterior half of the frontal bones, divided by a shallow crucial furrow in the situation of the anterior fontanelle, and taking the direction of the sutures. At the same time there was a marked obliquity of the skull. The posterior aspect of the right side of the head was considerably flattened, as was also the anterior aspect of the opposite side, making one oblique diameter smaller than the other—that is to say, taking the measurement from the ear on the right side obliquely across to the left frontal bone, the distance was much shorter than on the opposite side. The whole head seemed as if it was twisted, the normal diameters being changed in their relation to each other without any diminution of the size of the head as a whole; for, while one part, say the right posterior aspect, was flattened, there was a compensating bulging on that same side anteriorly, and on the opposite side vice versâ.

The existence of this singular conformation of the head led me to make an examination, suspecting it to be a case of *cranio-tabes.* I then found an unnatural yielding of that portion of the skull on the right side posteriorly, immediately in front of the lambdoidal suture. The area of this softening was at that time about an inch in extent. By pressing upon this point, no reflex action was induced, nor did the child seem to suffer much pain. By making a pretty firm and steady pressure on either of the protuberances just described, a mark was produced, which it took some time to obliterate. This pressure obviously caused more pain than the one on the thin part of the skull.

On no other part of the skeleton could any abnormal softening or deviation from the natural shape be detected. The chest was finely formed, and by auscultation and percussion nothing abnormal could be

elicited. The child could lie on either side, and seemed to be well nourished, only the skin had a paleness like marble. There was, besides this, a slight puffiness of the feet and hands.

The diagnosis of cranio-tabes of the post part of the skull, with the usual eccentric hyperostitis of the anterior part, being clear, a tonic treatment was commenced. The patient was given the compound syrup of superphosphates ʒss. twice a day, and for nourishment half a pint of Borden's condensed milk, and beef tea, as much as one pound of the best beef would give.

The child took, up to three days before its death, the nourishment very readily, always the whole allowance of milk, and generally the beef tea. Some days, however, the appetite would vary. The sleep was fair, though the child would wake up four or five times of a night, still it would make up for this want of rest by sleeping a considerable part of the day. There was generally only one normal passage of the bowels in twenty-four hours, and it was of a light color.

The urine was examined about the middle of March; only an ounce could be collected in three days, though the normal quantity seemed to be passed. The urine was found to be turbid, and of neutral re-action. On the application of heat, it remained turbid, but cleared up on the addition of nit. acid.

The per centage of inorganic salts was only one quarter of the normal quantity. The symptoms gradually progressed, the softening of the bone alluded to becoming increased in extent. At one or two points on this portion there could be recognised defects in the bony structure by the finger nail; abrupt margins could be detected that seemed as if a small hole existed in the bone.

On the 23d of February, Dr. Jacobi saw the case with me, and corroborated all the facts that I had made out. At that time there was no deficiency of the bony parts of the skull noticeable except the portion referred to in front of the lambdoidal suture.

Dr. Gouley saw the case with me on the 3d of March. On the 9th of March, for the first time, I noticed that there was a small spot on the left side of the occiput that did not resist pressure; in other words, the bone was softened at that point. As the case progressed, I could by pressure with the finger nail, appreciate the entire absence of the bony structure at one or two points. By observing this dried specimen, the bone at such points is found to be entirely absorbed, the openings being closed over by the pericranium and dura mater which I have left attached.

On the 19th of March I noticed, for the first time, a petecchial eruption over the right arm.

As the case progressed I noticed that the liver began to enlarge sensibly, and continued to do so until the time of death. This fact is, perhaps, of some importance, when we take into account the emaciation, notwithstanding she seemed to take nourishment very well. The skin was pleasant during all this time, and had not the dry, harsh feel that we notice so frequently in marasmus. From time to time I would notice a puffiness or œdematous swelling of the hands and feet; the

petecchial eruption would go and come at longer or shorter intervals.

Dr. Gouley, at the time he saw the case, coincided with me as regarded the plan of treatment. At the same time he suggested the propriety of administering the syr. iod. ferri in addition to the other remedies. I accordingly gave this along with the syr. of the superphosphates.

On the first of April, strong febrile action set in, the stools, changing their character, became frequent, and consisted merely of undigested milk. The syrups were then discontinued, and alteratives were given with a view to stimulate the action of the liver, but to no purpose. She died from exhaustion, without convulsion, April 4th, at 7 P.M.

The post-mortem examination was made sixteen hours after death. The connecting tissue of the scalp was very œdematous. The brain was very pale throughout and also very œdematous. There was no flattening of the convolutions. The lateral ventricles were not distended. The lining membrane of the ventricles was not softened. The pia mater and choroid plexus were very pale. On examining the skull we found it to be of this oblique shape as I have already described. The bones, except at those points where absorption had taken place, were unusually thickened but very succulent. The thinning of the skull extends on the right side from the juncture of the anterior and middle third of the parietal bone backward a little beyond the lambdoidal suture. On the right side it is confined exclusively to the occipital bone in the neighborhood also of lambdoidal suture. The vitreous table is normal in appearance, as we find it in children of this age, except at those points where the thinning of bony structure is apparent; there we observe the *impressiones digitatæ*, as in the adult subject. This shows that the convolutions of the brain, pressing against this internal table, has caused absorption of the softened bone amounting in some spots to a complete deficiency of the bony structure. The only covering for the brain at these parts is the pericranium and dura mater. The pericranium covering the described protuberances was exceedingly vascular and quiet blue in the fresh specimen. This vascularity at the margins of these protuberances is abruptly arrested, and we see healthy bone. On cutting into one of these protuberances the knife readily entered into the subjacent tissue, and on dissecting up carefully the flap from the external table, we found that a bony deposit had taken place between the periosteum and outer table. From the place where the flap was dissected up there was noticed a peculiar porous condition of the surface of the bone. This is a commencement of a transformation of the external table from the compact to spongy structure, and this becoming incorporated with the new deposit, and also with the diploë, would leave the bone without a compact layer, if that part of the new formation nearest to the periosteum was not organized into a dense tissue. If life had been prolonged, the diploë would have been very much increased in diameter; this is a fact that has been noticed in similar cases that have been reported.

Dr. Krakowitzer, in answer to a question from Dr. Clark, stated that he thought it was a disease of the general system, from the fact that

children laboring under this difficulty are never healthy. He did not think it should be compared with rachitic disease, because it occurred mainly in the head, and there was a corresponding increase of osseous matter that was thrown out in the vicinity. In rachitis, bony matter was wanting. There is not a want of the earthy basis of the bone It has been found that the disease occurs in a part of Germany where the drinking water contains a good deal less of lime than it generally does, and that, right near where the chemical constitution of the water is different, the disease does not occur. I am inclined to the opinion that it is a local disease, a disease of the capillary vessels of the skull, that the bone, by some process, gets softer than the brain pressing upon the bone, causes it to be absorbed, while new bony matter is thrown out in the vicinity.

Dr. Clark, in this connection, stated that he succeeded very well in collecting the urine in children, by squeezing the diapers. It answered every purpose, for both chemical and microscopical examination.

Phosphoric disease of the lower jaw.—Dr. Markoe presented a specimen of phosphoric disease of the lower jaw for Dr. Parker, with the following history.

The patient, a German, twenty-two years of age, had been working in a match factory for eight years, during which time he enjoyed perfect health, until four months previous to admission. At that time, he complained of a vague pain about his teeth, and had two or three extracted. The alveolar processes did not heal, and the bony surfaces remaining bare, seemed to increase in extent. A short time after, he noticed this: his face began to swell, and it was soon followed by the formation of an abscess. At the end of two weeks after, the abscess opened itself behind the ramus of the jaw. A second abscess soon after formed, opening underneath the jaw; at the same time, a fœtid discharge began to make its appearance from the inside of the mouth. The case from that time progressed slowly and steadily, until he came into the hospital. He then presented an unusually distorted countenance. The external surface of the tumor felt exceedingly hard, so much so, that it was thought there must be an involucrum present. Behind the ramus of the jaw, there were the two openings referred to. The operation for the removal of the diseased mass was performed by Dr. Parker. There was nothing peculiar about the operation; the incision was made in the usual place, and the soft parts were raised from the bone, the condyle disarticulated, and other sections at the symphysis menti made by the chain-saw. The diseased mass removed presented a beautiful specimen of what Stanley terms pumice-stone excrescence. Nearly the whole surface was covered with this material; the deposit was more abundant, however, at the angle of the bone. The patient did very well after the operation; and after he had remained in the house about a month, new bone had commenced to be deposited in place of that portion which had been removed.

REGULAR MEETING, APRIL 27.

Anchylosis of knee-joint—Exsection—Death from tetanus.—Dr. Post presented a specimen of *anchylosis* of the *knee-joint*, which had been

removed some months before, together with a cast of the knee, exhibiting the appearance of the part at the time of the operation. The patient was a young man who for many years had bony anchylosis, following an injury of the joint, the limb being bent at a somewhat acute angle. The operation was performed according to Dr. Buck's method. Great trouble was experienced after the operation from the excessive tension of the tendons of the flexor muscles. When the patient recovered from the effects of the ether there was a disposition to violent muscular action. In consequence of this agitation of the limb a considerable amount of hemorrhage took place, sufficient to cause a good deal of distension of the wound, and necessitate the removal of two or three sutures. This was followed by an undue amount of suppuration. Fourteen days after the operation the patient was attacked with tetanus and died at the end of fourteen days after. Profuse suppuration continued up to the time of death. He observed that the case was an unusual one, in relation to the duration of the tetanus; it was very unusual to see death take place so long after the disease manifested itself. Under such circumstances they were very apt to recover. The ends of the femur, tibia and fibula were consolidated together, forming a firm mass.

Tumor of the cerebellum—Death following the inhalation of ether.—Dr. Clark presented a specimen of *tumor of the cerebellum.* The case, said he, from which this specimen was taken, has lately interested us very much at Bellevue. It is that of a woman who died while ether was being administered, and the interesting question came up for solution to-day, whether the ether was the immediate or only cause of death, or whether the diseased mass about to be exhibited was the cause of death, the administration of ether at this time being no more than a coincidence; and finally whether the tumor rendered the patient incapable of bearing the influence of ether, so that the two concurred in the result.

In connection with the specimen, Dr. Clark asked the Secretary to read the two following cases of cysts in the cerebellum, from the *Liverpool Med. Chirurg. Review*, reported by Dr. James Turnbull.

Case 1.—Samuel Carpenter, a sailor, aged 32, was admitted to the Royal Infirmary, on the 12th of April, 1857, having been ill with pain in the head and neck of most intense character for six weeks. He had the greatest difficulty in turning or moving the head, and the pain was chiefly on the right side. The sight of the right eye was somewhat impaired, but there was no difference in the size of the pupils.

He had weakness, but no loss of power or feeling in the limbs. The tongue was very much furred when he came in, but it became nearly clean at one time, being variable in its condition. He had occasional vomiting, and the bowels were obstinately confined. Various remedies were tried—aperients, quinine and opium, without any benefit. It was thought that there might be some deep-seated disease of the vertebræ or bones, at the base of the skull, and issues were made with potassa fusa and iod. pot. given. These means all failed in affording any relief, and he was then brought gently under the influence of small doses of blue-pill. When his mouth became affected he appeared to experience

great relief, but in a day or two after he died suddenly whilst eating his dinner. He was admitted on the 12th of April, and died on the 14th of May, having been ill therefore about ten weeks.

Post-Mortem.—There was no disease found in the vertebræ of the neck or in the bones at the base of the skull, but a cyst the size of a pigeon's egg was discovered in the right hemisphere of the cerebellum, imbedded in it and almost entirely covered by the cerebral substance. The walls were very thin and rather vascular, and it contained a thick yellowish clear fluid with also a clot of blood, which occupied about a third of the cyst.

Case 2.—Mrs. M., a lady about 34 years of age, sent for me on the 8th of May, to see her, in consultation with Mr. Kay.

The previous summer she had suffered from a severe and acute affection of the brain, for which she had been bled in the arm. She was pregnant at the time but soon recovered from the attack. Five months previous to my seeing her, she began to suffer severe pain in the head, for which, almost every treatment was tried—counter irritation and depletion as well as tonics, but all without the slightest permanent benefit. I found that she had very severe pain in the right side of the head behind the ear—occasionally, and especially when she moved her head, most acute paroxysms came on, causing her to scream out. At other times she was almost free from pain, but was unwilling to move her head lest it should bring it on. There was great irritability of the stomach, and she frequently vomited dark bilious matter. The bowels were rather costive. The tongue was a good deal furred, especially at the back. There was no heat of skin or febrile disturbance, and the pulse was generally 90 or under. She had deafness of the right ear, but the sight was unimpaired, and there was no loss of sensation or muscular power. She was brought gently under the influence of small doses of blue-pill, and for a week after she was comparatively free from pain, so that hopes were entertained of her recovery. The pain and vomiting then returned as badly as before and belladonna and Indian hemp were tried with some advantage. Morphia, however, was found to afford the most relief. There was no particular change till the 20th of July, when she had a very severe paroxysm of pain, and died rather suddenly.

Post-Mortem.—On examination of the brain a cyst was found in the right hemisphere of the cerebellum about the size of a small hen's egg, and containing a clear yellowish serous fluid. The cyst was lined by a very fine membrane. The brain was otherwise healthy, and there was no disease of bone. . . . . .

These cases show us some very important practical facts, and I have not met with any recorded case exactly like them. They prove that cysts in the cerebellum are at least by no means innocuous, but that they may produce the most intense description of paroxysmal pain, and that *they are probably a more common cause of sudden death!! than is generally known.*

DR. E. B. DALTON read the history of the case, as follows: Margaret R———, native of Ireland, single, 21 years of age, was admitted into Bellevue Hospital 27th of January, 1859. At that time she com-

plained of frequently recurring attacks of intense headache, accompanied with excessive nausea, vomiting and vertigo. These attacks came on at intervals of four or five days, lasted some twenty-four or thirty-six hours, and then passed off, leaving the patient comparatively comfortable, though sometimes still, dull pain in the head, and dimness of vision remained. On the closest examination of her previous history and present condition, no clue to the cause of these symptoms could be detected. The bowels were slightly constipated, the urine normal. A physical examination of both chest and abdomen revealed nothing pathological, and according to the patient's statement the catamenia had always been normal, and she never had sexual intercourse, although the appearance of her breasts and certain lines upon her hips gave rise to slight suspicion as to former pregnancy. When first admitted she had been troubled with the symptoms detailed above for some two or three months.

She remained in the Hospital until the 4th of the present month (April, 1859), without material benefit.

No diagnosis was made. She again entered the Hospital on the 7th of April, suffering with the same difficulties unabated. During the attack she apparently suffered the intensest agony, throwing herself from side to side, and at times holding her hands tightly to her head and screaming with pain. Pulse rapid, but not unnatural in force ; countenance sometimes pale, and sometimes flushed, and the surface generally hot and cold by intervals. The general treatment was alterative in character. During the attacks a great many different things were tried to alleviate the suffering, but the only one known to be successful in this case was the inhalation of sulph. ether, which was entirely so in each instance. The patient would be kept under its influence for several hours. The drug had been administered three times, I gave it myself first some seven or eight weeks ago, and again two weeks subsequent. The third time it was given by my assistant. Some two or three ounces were made use of each time. No unpleasant effects had ever been noticed. On Sunday afternoon (April 24) patient expressed herself as feeling unusually well. On the morning of the 25th she was found suffering intensely with an attack similar to her previous ones. Ether at that time was administered by my assistant. A few minutes afterward I was summoned to the ward, where I found the doctor producing artificial respiration. At that time the countenance of the patient was slightly livid; pulse rapid, but of tolerable strength, all voluntary effort at respiration had ceased. She was immediately carried to the window, laid upon the floor, and artificial respiration continued for seven hours. Other means were also used, such as dashing hot and cold water on the body, electricity, ammonia, and injections of hot brandy and water. The pulse remained fairly perceptible for twenty minutes, the hue of the countenance improved at first, then became more livid, and alternated slightly in this way for several hours. At the end of about six hours dark blood began to trickle from the mouth and nose, and at the end of the time above specified efforts at resuscitation were given up as useless.

Autopsy, 51 hours after death :—Body well nourished, upper portions

pale, dependent portions somewhat livid; rigor mortis obvious, not extreme, skin in iliac fossa very blue. Nails and fingers as far as second joint of same hue; reddish blotches on inner side of lower extremities, and on the interior of right leg.

Head.—On removing the scalp no unusual appearance is presented, the blood which escaped being of a normal color. Skull of average thickness, presenting no peculiarity; surface of the brain, as seen through dura mater, natural; longitudinal sinus contains a notable quantity of air. Surface of brain, after removal of dura mater, presents nothing abnormal, save the appearance of several bubbles of air in the veins near the longitudinal sinus; surface of brain more dry than usual. On incision of the hemispheres punctæ vasculosæ very faintly perceptible; ventricles distended with perfectly transparent serum—an ounce and a half in quantity. Lining membranes of ventricles perfectly natural in appearance.

In the cerebellum nearly in the middle line of the body is a tumor. No odor of ether perceptible in the mouth. Chest, about ¼ inch of subcutaneous fat on the walls of the chest. Heart, weight 9 ounces, contains perfectly fluid black blood, is well covered with fat, especially the right ventricle, where there appears but little healthy muscular fibre.

Lungs have traces of old interlobular pleurisy, present nothing abnormal; abdomen ½ inch of fat on walls; liver normal; kidneys, both natural in size and external appearance; stomach contains a small amount of bloody mucus. *Intestines.*—Mucous membrane intensely congested; uterus natural; bladder contains small amount of urine; blood throughout the body fluid and dark colored.

Dr. Clark remarked: Here is the tumor spoken of. It will be remembered that the surface of the brain was dry; that there was no increase in the thickness of the lining membrane of the ventricles and ventricles themselves containing an ounce and a half of transparent fluid; that nothing further was noticed abnormal until the section came down to the cerebellum, when the first slice exposed a portion of this jelliform material. This morbid deposit occupied only the left lobe. The tumor measures 3 inches in length, 2½ in width and ¾ of an inch in thickness. Its character was malignant, and of the calloid variety.

NOTE.—The following facts have since been obtained: For the last four or five weeks of the patient's life there was a constant unsteadiness in her gait, and also a marked irregularity in the movements of her hands when engaged in any occupation. She frequently rolled out of her bed, and although she occupied beds in different positions, she invariably rolled out toward her left side. On the morning of her death, she would have once or twice rolled out upon the floor, had she not been prevented by the other patients near her. She was in the habit of walking upon the veranda, and in the hospital yard, but always with the same staggering, uncertain gait. The general inaccuracy of her movements became so much increased during the last week of her life, that she was unable to sew, according to her previous habits. The nurse reported several times that the patient was becoming silly and childish, though in conversation with her there was never noticed anything more than a general sluggishness of speech and manner, which indeed had characterized her from the first. The countenance bore a dull, stupid expression. Double vision was a marked symptom, and the right eye was so much impaired in its function as to be nearly useless. The patient was in the habit of covering it when wishing to look at any object.

PART SECOND.

CRITICAL ANALYSIS.

A Treatise on Gonorrhœa and Syphilis. By SILAS DURKEE, M.D., Fellow of the Mass. Medical Society, etc., etc. With eight colored plates. Boston: John P. Jewett, & Co., Publishers, 1859.

THIS, so far as we are aware, is the first work on this subject, originally published in this country. Independently of the cases, which profusely illustrate the text, it is chiefly a compilation. Looking at it in this light, we find the author's task of compiling very unequally performed: some portions of the book surprising us by the amount of industry and research which must have been required to collect so large an amount of material, and other portions being quite imperfect, as we shall presently endeavor to show. One defect inherent in nearly all compilations is obvious in this, viz.: that in his zeal to quote the opinions of others, the author omits to express his own, if he has any, or to afford his reader any guide to make his own selection.

In his preface, our author says: "The occurrence of blennorrhagia in the male, as resulting from leucorrhœa or from the menstrual fluid, has long been a standing theme of controversy, and is still involved in obscurity. I flatter myself that the manner in which I have disposed of this subject, will receive the approbation of my readers generally." We confess we are not of those who can see any obscurity in this question, and are also sorry to say that we cannot bestow our approbation on the manner in which it is here disposed of. A statement of the case is simply this: intercourse with a woman during her menstrual period, or while she has leucorrhœa, or, in other instances, where we can discover nothing but a normal condition of her organs, does sometimes, as is confessed by all, excite a urethral discharge in the male. If this discharge be not identical with that arising from contagion, the burden of proof lies with those who maintain it is not, to show some diagnostic sign either in the course or symptoms of the two diseases, or in their liability to complications, by which they can be distinguished. It is almost needless to say that such proof is entirely wanting; and until it be produced, we maintain that we are bound to regard the two as one and the same affection.

Our author at first admits the existence of cases of urethral discharge of simple origin, though he afterward seems inclined to deny it. On page 3 he says: "Men have also been known to receive a blennorrhagia from healthy women with whom they have had sexual intercourse, while the menstrual flow has been upon them. The same results occasionally supervene upon violent and long-continued dancing, frequent venereal

indulgence, and the want of co-aptation in the genital organs of the two parties. Masturbation, rheumatism, and gout likewise occasion gonorrhœa." Yet on page 6, he says: "During a practice now of thirty years, I have had scores of patients, who have pretended that their urethritis might have been derived, or perhaps was derived, from the vaginal or uterine secretion now alluded to; but I have never seen any evidence that convinced me of the fact. My faith in the power of leucorrhœal secretion as a source of blennorrhagia in the male, is scarcely equal to a grain of mustard seed." It is somewhat difficult to reconcile these two statements, since the one denies what the other in the same words affirms; but on turning back to page 2, we find that our author admits, in a few lines, two kinds of gonorrhœa, *gonorrhœa simplex* and *gonorrhœa impura*, and, although he does not say so, we suppose, in the paragraph first quoted, he is speaking of the former, and in the other of the latter.

Let us see how he distinguishes these two varieties; and first, we turn to his definitions: "Simple urethral running, or blennorrhagia *simplex*, in the male, consists in an increased secretion from the urethral glands or follicles, and proceeds from mere local irritation, is destitute of any contagious element or virulence of any kind, and may be produced by a variety of causes. It is specifically different in its nature from malignant gonorrhœa *impura*, which alone can be propagated." One point of difference is here distinctly stated, viz., that the one is contagious and the other not. We would like to inquire how Dr. Durkee knows that his gonorrhœa simplex is not contagious. Is his confidence in this fact so great that he would permit a patient with a urethral discharge, which he knew was contracted from the menstrual flow, to marry? We suspect not, especially when we read on page 18: "Unless a sample of blennorrhœal exudation were to exhibit the purity of distilled water (!) when examined with a high magnifying power, no man *would be justified* in the conclusion that it was bereft of noxious properties." Or are we to conclude that in nineteen-twentieths of the cases of gonorrhœa met with in practice, about the proportion of those of simple origin, as stated by Ricord, the discharge would be as pure as distilled water under one of Spencer's lenses with a magnifying power of 600 diameters?

But perhaps our author founds his distinction, as has often been done before, upon a difference in the intensity of the symptoms and the duration of the disease. On page 12, under the head of diagnosis, he says: "The inflammation (of gonorrhœa simplex) is moderate, producing but little pain or scalding in micturition; the urethral secretion occasions little or no excoriation of the parts with which it comes in contact, and the complaint yields to gentle treatment." We deny that the symptoms are of this slight character, except in rare instances; and even admitting that they are, as a general rule, milder, and the disease less obstinate than when arising from contagion, it is natural to suppose that its intensity will be in a measure proportioned to the intensity of the cause, and this fact is no argument in favor of there being two distinct varieties. Our author admits that, "in some rare instances of non-specific urethritis, the symptoms assume great severity." We maintain that,

whatever the cause of the disease, there is the same liability to any of the complications of gonorrhœa, and that there is never sufficient difference in the intensity of the symptoms in any given case, to enable any man to tell how it originated.

Dr. Durkee acknowledges the uncertainty of any such means of diagnosis. He says: "The physician has no positive means of distinguishing, in all cases, a simple gonorrhœa, not brought on by impure sexual intercourse, from a specific urethritis caught from an infected prostitute." Again, he speaks of "the assemblage of phenomena being almost precisely similar," in the two cases. Until he tells us how the two can be distinguished, independently of their history, in *one* case, we must believe them undistinguishable; and until he informs us how the symptoms differ in *one* particular, we must regard them as "precisely similar," and not "almost" so; nay, more, that they are one and the same affection.

It is apparent throughout this chapter, that one great, if not the chief objection of the author to admitting but one species of gonorrhœa, is a morbid fear lest patients should impose upon him, and also a dread that morality may suffer, inasmuch as "the sensualist might essay to appropriate the fact to his personal advantage, in the hope that it might shield him from the multitude of his sins, however frequently he had gone astray into the path of licentiousness." We hope no one will accuse us of a desire to encourage vice, when we say, that we think it is time that every man who has the clap, should not therefore be considered a liar. Neither the cause of truth, science nor morality is subserved by such a course as this. We are well aware of the falsehoods sometimes resorted to by venereal patients, but they are generally so transparent that they can be seen through at a glance; and we maintain that the statements of the majority of this class of patients, who come under the care of any physician, can be relied upon implicitly, so far as any facts are concerned about which they must possess certain knowledge. A man may honestly state that he has had no chancre, though we find indubitable evidence of it in an induration upon his penis; but he knows whether he has had connection with one woman or two, and with patients who have been often under our care, we must be poor judges of character if we cannot feel confident or not, that they will state what they know. With regard to the sensualists, we would suggest, that it is better that they should "essay to appropriate the fact" a hundred times, rather than that we should wrongfully accuse an innocent person in one instance. Dr. Durkee confesses that he "usually turns a deaf ear to all such specious explanations from patients." We venture to say, that if he will, with discrimination, turn a hearing ear, to some of them, and turn an eye, seeing through a speculum, to the field from which they reaped their disease, he will come to a different conclusion on this subject, and the "obscurity" which surrounds it in his own mind, and envelops his description of it, will vanish.

After speaking of the causes of gonorrhœa, our author describes at length the symptoms, complications and treatment of this affection. We regard this as decidedly the best executed portion of the work, exhibit-

ing, as it does, great thoroughness and industry in its execution. The author, however, occasionally draws on the marvellous, as when he says of the discharge, that "it emits a disagreeable, nauseous odor, wholly different from ordinary pus. The effluvium is sometimes so strong and impressive on the olfactories, that the practitioner recognizes the nature of the case before the patient tells what ails him." (!) The author may, however, derive his authority for this statement, from Vidal, who recognizes cases of gonorrhœa in the male of leucorrhœal origin, by "a sour and nauseous smell like that of the *fluor albus* of the woman with whom he had connection." Both these statements would require a strong imagination for their verification, we suspect. That the male organs, affected with gonorrhœa, have, when exposed, a perceptible and disagreeable smell, is an undoubted fact, but it is not peculiar to gonorrhœal discharges, being readily observed when purulent matter of any kind is pent up in this situation. It depends, in short, on the seat of the disease and not on its character.

In speaking of the treatment of gonorrhœal ophthalmia, Dr Durkee, recommends venesection in a manner not sanctioned by the best modern ophthalmic surgeons. We would refer to the writings of Critchett, Dixon, France and others, in support of the opinion that venesection and other general antiphlogistic measures, in this disease, are deserving of the highest censure.

But leaving this portion of the work, we proceed to the second portion, which relates to a more important subject, viz. syphilis; and here, we regret to say, that our author has been less successful than in the first part of his book. We do not regard the chapters on this subject, as at all complete or up to the knowledge of the present day; many important distinctions, now fully established, are entirely overlooked; the meaning of the author is at times obscure, and the necessary guides to assist the young practitioner in forming his diagnosis and selecting his treatment are wanting.

The first chapter under the head of syphilis forms an introduction to this branch of the subject, and contains general considerations with regard to the syphilitic virus and primary symptoms, closing with the abortive treatment of the latter. We find, however, no attempt in this chapter to classify chancres, or to describe the different appearances which they present. Indeed, the fact that they are susceptible of classification at all is not distinctly stated, and can only be drawn by inference from some allusions in the text. Perhaps, however, the description and classification of primary symptoms is to be found in a subsequent portion of the work. We turn over the pages, and find one chapter devoted to the indurated chancre, another to the masked chancre, another to the inflammatory chancre, and another still to the phagedænic chancre. But where is the simple chancre, that form of primary syphilis which includes three fourths of all the chancres that exist? We search for it in vain throughout the book; *non est.* But again, perhaps our author does not believe in the existence of simple chancres, and looks upon all primary ulcers as more or less indurated and liable to be followed by constitu-

tional syphilis. Some ground for this supposition is found unpon page 178, where it is stated: "It is believed that the most simple chancres that have the least degree of induration may be followed by constitutional symptoms. Some authorities" [*one?* authority, Vidal], "maintain that all chancres are more or less indurated." But this cannot be our author's faith, for we read in a foot note, on page 176, a confession, which is all that the most ardent admirer of Ricord could wish, viz.: "It must be confessed that the evidence in favor of a *duality* of *chancrous* virus is overwhelming, and that it is very probable that much time will not pass before it is admitted by the whole profession!" Where then—we return to our starting-point—can we find the description of the simple chancre, the soft chancre, the non-infecting chancre, the chancroide?

In the chapter on indurated chancre, we find no account of the usual appearance of this form of ulcer, of the characteristics of the induration or the varieties it may present, of the inflammatory engorgement which may be mistaken for it, or of the assistance in diagnosis, to be derived from an examination of the neighboring lymphatic ganglia. Our author's idea of an indurated chancre appears to be limited, in the main, to the sore described by Hunter. On page 177, he says: "Probably not one chancre in twenty possesses the characteristic induration of its base and edges and all the other peculiar attributes, which constitute what is called the Hunterian chancre, and which was formerly regarded by many leading surgeons as the only true type or indication of the syphilitic sore, and which alone, under ordinary circumstances, was thought capable of infecting the constitution." Again, on page 209: "It has already been stated that the form of indurated ulcer described by Hunter, as having a hard base, with a margin terminating abruptly, and not extending itself into the adjacent tissues, is seldom met with. We entirely agree with our author as to the rarity of such an indurated chancre as here described. But, in the place of considering what Hunter described as a simple chancre, suppose we inquire what is now known by that name; or, as the "Autocrat of the Breakfast-table" would say, let us *depolarize* the terms, "indurated" and "Hunterian chancre." What, then, is the form of primary ulcer which is regarded as the precursor of constitutional syphilis, by those surgeons of the present day, who believe in the duality of the chancrous virus?

In reply, we would say, an infecting chancre is usually (in 146 cases out of 170, according to one of Bassereau's *statistical* tables*) a mere *erosion*, destitute of abruptly terminating edges or exudation upon its surface, and furnishing but a small amount of secretion, which is usually clear and transparent; in a few cases (24 out of 170, according to the same table of M. Bassereau), it is an excavated ulcer; in both instances it is indurated, the induration varying in development, and usually persistent after the cicatrization of the chancre, but sometimes transient and disappearing in a few days; finally, it is accompanied invariably by an indolent engorgement and induration of the pleiad of lymphatic glands

* "Affections de la peau symptomatiques de la syphilis," p. 140.

in the groin (generally on both sides, sometimes on only one), which rarely suppurate and never specifically, and usually persist for months or even years. Such is the indurated chancre, if you will call it so, of the present day; or, better still, laying aside a term around which still cling false ideas of the past that it would be difficult to sever, such the *infecting chancre*. These are the characteristic symptoms, mutually supporting and explaining each other, which announce infection of the constitution, and a knowledge of which, in the great majority of cases, will enable the surgeon to foretell his patient's future immunity or the contrary, and act accordingly. But these symptoms find no place in Dr. Durkee's "Treatise on Gonorrhœa and Syphilis."

Had the assistance to diagnosis, which a description of these symptoms would have afforded, been given in the book before us, we should have little fault to find with the treatment of primary sores recommended by the author, since he evidently relies, in the main, upon the presence of induration as an indication for a mercurial course; but without this, we fear that the young practitioner, who takes this book for a guide, will be left in the dark. We would remark, however, that Dr. Durkee seems to confine the deep cauterization of chancres to the abortive treatment, and makes no mention of its value when applied to simple chancres for the purpose of transforming them into simple ulcers, and thus hastening their cicatrization.

But if we find our author's description of chancres meagre, imperfect and confused, what shall we say of his account of buboes? Truly, here is "confusion worse confounded." The description of this whole important subject is contained in two and one-third pages, and this in a book comprising 431 pages! Here again we find no classification, nor any attempt at any; no mention of sympathetic buboes, virulent buboes, nor indurated buboes. Buboes are all one! But, excuse us; our author does describe what he calls a syphilitic bubo, but it is an anomaly, a hybrid, such as we never heard of before and probably never will again. As a curiosity, then, it is worthy of quotation: "Buboes that arise in consequence of indurated chancre, *rarely suppurate*, being subject to the same law of morbid action that governs the chancre. Such buboes are regarded by some writers, as nothing more nor less than *chancres* seated in these glandular bodies. They are also denominated indurated, indolent, constitutional buboes, and as they *never suppurate specifically*, some surgeons consider that no local treatment is ever serviceable in their removal." "The true syphilitic bubo is very indolent in its progress, remaining nearly stationary for several weeks, causing but little pain or inconvenience; but the mere fact of its existence is of no trifling significance. It shows that the system is impregnated with the specific virus, which has found its way into the channels of intercommunication, and through the medium of the blood and other fluids, has poisoned the whole animal economy." "The virulent matter of the true syphilitic bubo retains its contagious property, so long as it remains in the ganglion, that is, *it is inoculable*" (*!*) So far as we can judge, this hybrid is a cross between an indurated and a virulent bubo, but we think it ought to be submitted to Prof. Wyman

for identification. After this lucid (?) description, the author remarks; "It is a matter of great consequence that we should be correct in our diagnosis of the kind of bubo we meet with, because important therapeutic indications are founded on the opinion we form of the character of the swelling." (!!)

The mechanical execution of Dr. Durkee's work reflects great credit on the publishers, Messrs. Jewett & Co. The type and paper are excellent. The book is illustrated with eight colored plates of the syphilodermata, fairly executed for this country, though not equal to the illustrations of foreign works. The original of the plate of syphilitic rupia, which serves as a frontispiece, must have been a "splendid specimen," though we think it would have been in better taste to have given it its proper position in the text, since its present position reminds us unpleasantly of the yellow-covered literature, which is occasionally thrust under our noses, if we pass through the lower part of the city, carpet-bag in hand, on a day's vacation. F. J. B.

Biblisch-Talmudische Medicin, oder pragmatische Darstellung der Arzneikunde der alten Israeliten. Von R. I. WUNDERBAR. Riga und Leipzig, 1850.

Biblical and Talmudic Medicine; being a history and description of the Medicine of the ancient Israelites.* By R. I. WUNDERBAR. Riga and Leipsic, 1850. Reviewed by M. Blumenthal, M.D., Physician to Jews' Hospital, New York.

AMONG all the various works, essays, and monographs that have appeared within the last decennium relating to the History of Medicine, there is probably none more worthy of attentive study, or more interesting than Wunderbar's "Biblical and Talmudic Medicine." It takes us back to the days of the patriarch Abraham (two thousand years before the Christian era), and extends throughout the entire period of the Bible and other inspired writings, down to the close of the Babylonian Talmud—five hundred years after the birth of Christ, thus grouping 2.500 years of accumulated knowledge and experience as known at that early period. It places before the antiquarian many facts and theories that are highly interesting; and presents to the medical philosopher much that is deserving of reflection and study. But above all this, and more than all—a true and faithful picture of the actual state of medical knowledge of the ancient Israelites is placed before the world, in a concise and interesting as well as instructive and philosophical form; and while an act of justice is being consummated in giving the subject its proper position and enabling the student to appreciate that "which is of old," it at the same time answers a want sufficiently long felt, namely, it supplies the means of learning what was known and

* The Talmud, which will be frequently mentioned, is an immense work comprising many volumes, and containing the traditions of the Jewish nation, their common Law and the questions and decisions of the Hebrew doctors relative to their doctrines and usages.

practised by the Hebrew nation, then the most enlightened on the face of the earth. We will, however, let the author himself speak:

"This work, in which it is attempted to present the entire medicine of the Hebrews, Biblical as well as Talmudical in all its branches, has neither the object of establishing a new and unknown medical system, nor even to defend an old one, but still less to claim the place of a practical manual of medicine; but simply to present a faithful picture of the medical principles of a nation, which, owing to the wonderful vicissitudes of fortune it has outlived, has acquired a remarkable position in the world's history, and which had distinguished itself in the cultivation of the mind beyond all other nations of its time; and therefore in medicine also, not only not remaining behind its contemporaries, but even maturing its earliest seeds in its midst; in a word, we are to exhibit here the elementary principles of that which the people of Israel, since its very infancy, had thought in medicine, how these were at a later period developed, and finally made into a science with its praetical application—in as clear and comprehensive, but yet as concise and complete a manner possible."

Here, then, is an ample explanation of the scope of the work before us, and it commends itself to us, not alone because it treats of the knowledge possessed in the department of medicine, by an interesting people, but it is of importance as showing the antiquity of many of our theories, remedies, instruments and operations.

It exhibits in many parts a course of procedure in the treatment of disease, as taught them by observation and experience, which modern science and our advanced notions on physiology and pathology have hardly improved.

But it likewise shows how superstitious and unfounded some of the dogmas were, which all ages, the remotely ancient as well as the modern, advanced with such assurance and maintained with such tenacity.

It must certainly appear surprising that for so many centuries the medicine and surgery of the Bible, and still more so of the Talmud, should not have found a champion sufficiently bold to devote himself to the task of collecting the facts scattered throughout its numerous pages. It is true, numerous essays and works upon special Biblical-medical subjects have, from time to time, appeared; but such works can only have value when they have all the light thrown upon them that the Talmud and Midrash possess, and possess alone, as being the most ancient authenticated commentaries and explanations of the Bible that the world possesses.

As to Talmudic medicine the author says: "As relates to this branch, it is really astounding that so little has been done in modern time in exploring this field, so extensive and comprehensive. The reason, however, may be ascribed to the circumstance, that the Talmud, with all its contents, maintained, until within comparatively a few decennia, such a position of isolation as regards the general sciences, that no one thought of rescuing its treasures of knowledge buried deeply beneath the dust and ruins of ages.

"For centuries the Talmud remained terra incognita to all Christian literati, and if a few even took the pains of studying the same, it was generally done for purposes inimical to Judaism, for which reason, likewise, they generally busied themselves more with the dogmatic than with the scientific or medical knowledge contained therein.

"The Israelite, on the other hand, found for ages and ages his sole (literary) employment in the Talmud, and only in the Talmud. He drew consolation therefrom in suffering; in it he lived and labored; here he obtained his general education, his religion, morals, jurisprudence, mathematics, history, and medicine. But to transmit this knowledge to the outer world was not within his sphere. What cared he for the outer world, since it repulsed or persecuted him? Or in what language should he have rendered it, since he had no fatherland, and was neither permitted to have possessions, nor yet use the language of the nations among whom he lived? Is it to be wondered at that during such a dark period the Talmud received no popular scientific exposition even from Israel's sons? How different is our time!" . . .

It is left, then, for our time to fill the cleft thus left. The author has come nobly to the task, and how conscientiously he has fulfilled it his work itself will show.

To the consideration of this we will now proceed.

The author has divided his labor into the following parts:

Part 1st. Introduction, containing

I. The History of the Medicine of the Hebrews, divided into
   a. Its periodical divisions.
   b. Origin and progress of Hebrew Medicine.
   c. Its system and character.
   d. Its discipline.

II. Of the Weights, Measures, Instruments and Apparatuses of the Ancient Hebrews.

III. Literature of the Med. of the Hebrews.
   a. Biblical.
   b. Talmudical.

Part 2d. Containing:

I. Materia Medica and Pharmacology of the Hebrews.
II. Macrobiotic and Dietetic Laws "
III. Pathology and Surgery "
IV. Therapeutics and Sympathy "
V. Medical Jurisprudence "

It it evident, from the foregoing enumeration of subjects, that our remarks must be as brief as possible, else the review will form another book.

The author divides the History of Hebrew Medicine into, 1, Biblical; 2, Ante-Talmudical; and 3, Talmudical.

The first begins with Abraham and extends to Ezra (2000 years; 450 years before the Christian era).

The second, from Ezra (450 years before the Christian era) to Theudas of Laodicea, or the destruction of Jerusalem by Titus (70 years post Christian era).

The third period (Talmudical), from the destruction of Jerusalem by Titus (anno 70) until the completion of the Babylonian Talmud (500 years post Christian era).

Origin and progress of Hebrew medicine.—"When we search for the origin of medical science among the Hebrews, we are taught by observation that, as among other barbarous nations, even so among the Israelites. So long as they had not reached a degree of civilization, medicine could hardly have existed either as an art or science, for the employment of reason for the establishment of general principles and rules has always been unknown among uncivilized nations." Consequently, we find nowhere in the Bible or profane writings, any mention of a physician, or surgical or obstetrical operation, until the time of the patriarch Abraham. It was he who first performed the operation of circumcision, which, in its performance, as well as the after treatment, presupposes a certain degree of surgical knowledge. It appears, however, that from the time of Jacob, the patriarch, and the emigration of his family into Egypt, more attention was paid to this subject. For it is here mentioned that practising Hebrew midwives were then in existence, and it is even probable that the difficult labors of Rebecca, Rachel, and Tamar, were assisted by midwives, probably Hebrew. In Genesis xxx. 14, we find that the atropa mandragora (mandrake) was then already in use among the Israelites to cure barrenness.

Though these and other attempts, in the field of Hebrew medicine, can hardly be considered as the result of scientific research or reflection, still they show that at so early a period in the history of the world, mankind began to look for remedies for its ills. It was in Egypt, however, that some progress was made. Moses, being the adopted son of a princess, enjoyed all opportunities that the times and circumstances offered to learn of the Egyptian priests what they knew of medicine and chemistry.

How well he employed the opportunity, the laws and ordinances he afterward promulgated to his people, namely, the dietetic rules, on leprosy, on seminal diseases, and other sanitary regulations so often met with in the Bible, sufficiently demonstrate.

"In the absence of remedies, dangerous and particularly internal diseases, were generally left to nature." Prayers and sacrifices were then the only resort or consolation for the patients and their relatives. It is worthy of remark, however, that, unlike the idolatrous surrounding nations—the priests among the Israelites never resorted to these acts of chicanery and pretended witchcraft through which the heathens strove to control and influence their adherents. Nor was the practice of medicine restricted to the priests among the Israelites, or their special privilege, although they usually were the physicians, for the reason that owing to their being generally better educated, they also knew most of the diseases of their tribe. The treatment of leprosy and the execution of the various laws relating to blood and cleanliness were generally to be enforced by the Levites, and the priests were, as is well known, of the tribe of Levi.

"With Solomon," says our author, "commences a new era in

Hebrew medicine. The Bible tells us of this wise king, that his wisdom well known among the nations and surpassing even the Egyptians, was greater than that among any Oriental nation; that he possessed a knowledge of the vegetable kingdom from the mighty cedar to the humble hyssop, and that he also knew to speak of beasts, of fowls, insects, and fishes (1 Kings, chap. iv. 33). Solomon appears also to have known of "healing herbs, and a healing plaster" (Eccles. iii. 3.) and several of his allegories allow us to ascribe to him some knowledge of anatomy and physiology. Further on he adds, "It is to be supposed that Solomon collected all that was then known among his own people, as well as all he could gather from the surrounding nations (especially the results of the medical practice, and experience at the temple of Æsculapius at Sidon, among the Phœnicians, then already flourishing) and, that he carefully compiled all this into a book afterwards frequently mentioned in the Talmud, as the 'Physician's Book,' or Sepher Rephuoth."

Contributions to Midwifery, and Diseases of Women and Children, with a Report on the Progress of Obstetrics and Uterine and Infantile Pathology in 1858. By E. Noeggerath, M.D., and A. Jacobi, M.D. New York, Baillière Brothers, 1859; pp. 466.

The editors of this volume are well known to the readers of this Journal by their contributions to its retrospect department during the past year. The work consists of two parts—Original and Retrospect—the former occupying 96, the latter 370 pages. The first part contains articles on *Induction of Premature Labor; Injection of Caustic Solutions into the cavity of the Womb; On a New form of Pessary; The Pathogenesis of Uterine Polypi; Invagination of Colon in an Infant; On the Oxysulphuret of Antimony as an Expectorant; On the Premature Closure of the Fontanels and Sutures of the Cranium.* The reports on obstetrics and uterine and infantile pathology embrace a complete review of all the publications on these branches during the past year. The simple statement that 109 periodicals were reviewed, and the most valuable matter carefully collated, is a guaranty of the value of the retrospect. We trust that the success of this annual will be such as to encourage its authors to continue the series. The typographical execution of the work is creditable to the publishers.

Memoir of John Griscom, LL.D., late Professor of Chemistry and Natural Philosophy; with an account of the New York High School, Society for the Prevention of Pauperism, the House of Refuge, and other Institutions. Compiled from an Autobiography, and other sources. By John H. Griscom, M.D. New York: Robert Carter & Brothers, 1859, pp. 427.

The subject of this memoir was born of Quaker parentage, at Hancock's Bridge, New Jersey, in 1774, about the beginning of the war of the Revolution. Having but the most limited opportunities for acquir-

ing an education, he, however, made such diligent use of the means at his command, as to fit himself for a teacher at the age of 17, and in this avocation he afterward attained the most honorable distinction, and a large field of influence. In 1807, he was induced to establish a school in this city, and from this period he became an active and philanthropic citizen of New York. We find him, subsequently, a Professor of Chemistry in Columbia College, a member of the New York Historical Society, and a member of the Literary and Historical Society. To his efforts we owe the establishment of some of our most excellent charities. Prof. Griscom travelled extensively in this country and abroad, and being a man of general information, and familiar with the physical sciences, his reminiscences and diary of his travels are extremely interesting. His travels abroad were published under the title, "A Year in Europe," which passed through two editions. Dr. Griscom spent the latter part of his life in Burlington, Vt., in the enjoyment of a serene old age, and devoted to works of benevolence. He died at the age of 77.

This biography presents us with the life of one of our early citizens, and it is such a history as should be placed on record for the benefit of future generations. The lessons which it teaches of self-reliance, independent thinking, temperance, philanthropy, and of the blessings which flow from the practice of the Christian virtues, should be impressed upon our youth.

The memoir, much of which is an autobiography, is written in a pleasing style.

A Practical Treatise on the Diseases of Childhood. By T. H. TANNER, M.D., F.L.S., Licentiate of the Royal College of Physicians, etc. Philadelphia: Lindsay & Blakiston, 1859, pp. 464.

The design of this work is to present to the student and practitioner of medicine a complete work on the disorders of infants and children within a moderate compass. The first four chapters relate to general observations on the period of childhood; the diagnosis and prognosis of infantile diseases; infantile therapeutics; the management and education of children. The remainder of the work is devoted to the special diseases of childhood, with an appendix of formulæ.

Water, as a Preservative of Health, and a Remedy in Disease. A Treatise on Baths: including cold, sea, warm, hot, vapor, gas, and mud baths; also, on Hydropathy, Pulmonary Inhalation; with a description of bathing in ancient and modern times. By JOHN BELL, M.D., Fellow of the College of Physicians, Philadelphia. Second edition. Philadelphia: Lindsay & Blakiston, 1859, pp. 658. Price $1 25.

The design of this work is to furnish that knowledge in regard to the employment of water, in health and disease, which not only the physician, but the patient, must have, in order to its proper use. The first sections treat of the functions of the skin, and the conditions for preserving them, as clothing, exercise, baths, etc. The history of bathing

is then given, with interesting descriptions of the baths of ancient Greece and Rome, and of modern Europe. The proper uses of the bath are then pointed out as a means of preserving health. The remainder of the work, comprising two-thirds of the volume, is devoted to the various methods of using water as a therapeutical agent. The volume contains a vast amount of practical matter, presented in the easy and graceful style for which the author is distinguished. It should be carefully studied by every physician in these days, when the treatment of disease by water has been popularized by specialists who know little of, and care less for, its scientific employment.

On Poisons in relation to Medical Jurisprudence and Medicine. By Alfred Swayne Taylor, M.D., F.R.S., Fellow of the Royal College of Physicians, London, etc., etc. Second American, from the second and revised London edition. Philadelphia: Blanchard & Lea, 1859, pp. 755.

Toxicology is rapidly becoming one of the most important branches of legal medicine. The fearful increase of the crimes of homicide and suicide by poisoning, within the last few years, has stimulated chemical inquiry to such an extent as to add largely to our previous knowledge of the action of the various poisons. This is seen in the text books on poisons, which in their new editions appear almost as new works. The work of Dr. Taylor, though a second edition, has been so much modified as to have the character of a new treatise. Such a work is indispensable to the practitioner, and none has yet been published that so happily meets his wants.

RECENT FOREIGN PUBLICATIONS.

We intend hereafter to notice regularly the issue of foreign medical works, with such notes on each individual volume as our space will allow. We shall then be able to furnish those who are interested in procuring recent works on any branch of medical science information of the appearance of works, and of their practical value.

Annuaire de la Syphilis et des Maladies de la Peau. Par MM. P. Diday, et J. Rollet. Année 1858. Paris, J. B. Baillière et fils, 1859. —We are most happy to welcome the first number of an annual on these important subjects, especially when bearing upon its title page the names of two such accurate observers as MM. Diday and Rollet. We shall soon have occasion to give in the pages of this Journal the substance of the articles embraced in this volume, and will therefore, at present, merely enumerate them; adding, that the severe scrutiny and analysis of facts presented, and the impartiality in judging them, so requisite in all subjects connected with syphilis, are characteristic of the work throughout.

Researches on Gonorrhœal Rheumatism: by M. Rollet.

Injections limited to the deeper portion of the urethra; the manner of using them and their curative effect; by M. Diday.

A case of Transmission of an Indurated and Simple Chancre: by M. A. Rey.

Herpetic Affection of the Urethra: by M. Boncaud.

Essay on Fungous Syphilitic Sarcocele: by M. Rollet.

On the Destruction of Phagedenic Chancres by the actual cautery: by M. Rollet.

Inadequacy of the destruction of a Primary Infecting Chancre, in preventing Constitutional Syphilis: by M. Diday.

Researches on the General Eruptions produced by Vaccination: by MM. Sordet and Bouchard.

On Hypertrophic Tumors of the Skin, and especially Papillary Hypertrophies: by M. L. Ollier.

On the Destruction of Chancres, its mode of execution, its advantages and its limits: by M. A. Drou.

Experimental Researches on Chancres: by M. Larogenne.

Critical Review of Works of the past Year on Syphilis and Diseases of the Skin. F. J. B.

The Microscope in its Application to Practical Medicine. By LIONEL BEALE, M.B. F.R.S. Second edition. John Churchill, London, 1859. —Among those who have studied microscopy in its relation to practical medicine, Dr. Beale has deservedly taken a high rank. He has improved his excellent opportunities to the best advantage, and his publications show an ardent love for the branch of duty in which he excels.

The treatise before us is one of great value to the student in medical microscopy. It is comprehensive, and yet extends over less than four hundred pages.

In the first part of the work, the author gives very full instruction in the use of the microscope, explaining the different instruments required, the proper mode of preparing and examining specimens, and the various sources of error. The second part relates to "the microscopical character of tissues in health and disease; of morbid growths and deposits; of the fluid products of disease, and of animal and vegetable parasites."

An excellent feature in the work, and one which greatly enhances its value, is the frequent description by the author of the reaction of chemical tests on morbid deposits. Chemistry must indeed occupy a prominent place in nearly all satisfactory examinations of diseased products, for the microscope often fails to explain the nature of lesions unless aided by this science.

But the quality which more than any other, in our opinion, renders this a book of great value, is the large number of woodcuts, two hundred and seventy-one, representing for the most part microscopical appearances, observed and drawn by the author himself. Such beautiful and accurate diagrams will render an inestimable service to those—and

they are in a large majority—who have not had the advantages of instruction in microscopical studies.

There are, of course, deficiencies in this treatise, and remarks apparently, if not really, irreconcilable with those made by other observers; but each subsequent edition will no doubt be more full and accurate.

Traité de la Maladie Vénérienne, par J. Hunter, traduit de l'Anglais, par le Dr. G. Richelot, avec des additions par le Dr. Ph. Ricord; Troisième edition, pp. 560. Paris: J. B. Baillière et Fils. 1859.—M. Ricord appears to have taken no part in the issue of this recent edition of Ricord and Hunter, his portion of the work remaining precisely the same as in the previous edition. The only additions made are from the pen of the French translator, Dr. Richelot. The most important of these relates to the modern classification of chancres into simple and infecting, and contains a description of these two kinds of primary sores and their attendant buboes, derived from M. Fournier's edition of Ricord's Lectures on Chancre. This matter was added to the American edition, noticed in our last number, prior to the issue of the present French edition.

Tardieu (A.)—*Etude Médico-Légale sur la Strangulation.* 8vo. pp. 90. Paris, 1859.—M. Tardieu is one of the most able writers in France on legal medicine. In this work he gives the results of his study of the subject of strangulation.

James (J. H.)—*Practical Observations on the Operations for Strangulated Hernia.* 8vo. pp. 95. London, 1859.—This well-written monograph is based upon thirty-six operations for hernia, performed by the author, which are accurately tabulated. Of these, 22 were femoral; 14 inguinal and scrotal; deaths 14. The author discusses the various points of interest in this operation.

Headland (F. W.)—*An Essay on the Action of Medicines on the System; or on the mode in which therapeutic agents introduced into the stomach produce their peculiar effects on the animal economy.* Third edition, revised and enlarged. 8vo. pp. 447. London, 1859.—No work on the employment of remedies has been received with more favor than that of Mr. Headland. The third edition has been thoroughly revised by the author.

Hassall (A. H.)—*The Urine in Health and Disease; or, a simple Explanation of the Physical Properties, Composition and uses of the Urine, of the functions of the Kidneys, etc.*, with 24 large engravings. 12mo. pp. 82. London, 1859.—This little volume is designed to assist the practitioner in the study of the urine and the urinary organs.

Maclise (J.)—*On Dislocations and Fractures.* Part 8, containing plates 29, 30, 31, 32, and descriptive letterpress. London, 1859.—This fasciculus maintains the high character of the series. The plates illustrate fractures and dislocations of the femur, tibia, fibula and patella.

MALGAIGNE (J. F.)—*Traité d'Anatomie Chirurgicale et de Chirurgie expérimentale.* 2eme edit. Revue et considerablement augmentée. 2 vols. 8vo. pp. 1664. Paris, 1859.—The great work of Malgaigne is too well known to require any other notice than the announcement of a second edition.

LONGET, (F. A.)—*Traité de Physiologie.* Vol. 1. part 2 fasc. 2. *Absorption, Respiration.* Royal 8vo. pp. 285–682. Paris, 1859.—The second fasciculus of part 2, vol. 1, of Longet's Physiology has just appeared. The third and last fasciculus of this part, comprising *Circulation, Animal Heat, Secretions, Nutrition,* will be published at the end of the year.

CHASSAIGNAC (E.)—*Traité Pratique de la Suppuration et du Drainage Chirurgical.* (*A Practical Treatise on Suppuration and Surgical Drainage.*) 2 vol., 8vo. Paris, 1859.—In this elaborate work the author presents his views of suppuration, and the drainage of abscesses by tubes, etc. The novelty of the treatment, and the success which this surgeon claims, will render this publication attractive to the surgical reader.

COOPER (W. W.)—*On Wounds and Injuries of the Eye.* With colored plates. 1 vol. 8vo. pp. 330. London, 1859.—This work, by one of the most eminent English writers on the diseases of the eye, relates entirely to the injuries of this organ, and is of a thoroughly practical character.

DOBELL (H.)—*Demonstration of Diseases of the Chest, and their Physical Diagnosis.* With colored plates. 8vo. pp. 115. London, 1858.—The author has improved upon former writers by adding to the description of the physical signs of chest-affections, a series of colored plates, illustrating the different morbid conditions of the lungs. There are ten illustrations, each exhibiting several varieties of pulmonary disease, arranged under the heads of *Consolidation, Liquefaction, Excavations, Pleurisy, Pneumothorax.* The plates are taken from fresh specimens, are well executed, the coloring giving them all the appearance of reality.

DURAND-FARDEL, etc. *Dictionnaire Général des Eaux Minérales, et d'Hydrologie Médicale.* 1ere Livraison. 8vo. pp. 192. Paris, 1859.—This is a comprehensive dictionary upon mineral waters, and the various medicinal uses of water, and will be a valuable addition to the physician's library.

FOLLIN (E.) *Leçons sur l'Application de l'Ophthalmoscope au diagnostic des Maladies de l'Œil.* (*Lessons upon the Application of the Ophthalmoscope, to the Diagnosis of Diseases of the eye.*) Avec 2 planches. 8vo. pp. 114. Paris, 1859.—The importance which oculists now attach to the ophthalmoscope in the diagnosis of diseases of the deep structures of the eye, render such a manual as the one before us indispensable to the student in this department of practice.

PROCEEDINGS OF ASSOCIATIONS.

NATIONAL QUARANTINE AND SANITARY CONVENTION.

The third National Quarantine and Sanitary Convention met at 10 o'clock, April 27th, 1859, at the College of Physicians, corner of Fourth Avenue and Twenty-third street. Over one hundred persons were present at the opening of proceedings, among whom were many leading citizens and medical men of this and other States.

On motion of Frederick E. Mather, of New York, the Convention was temporarily organized by the election of Dr. Wm. M. Kemp, of Baltimore, and Charles H. Haswell, of New York, respectively, the President and Secretary of the last annual Convention, to the same positions, temporarily, of this.

Dr. Joseph M. Smith, of New York, made a brief speech, in which he gave a cordial welcome to the delegates.

It was moved and carried that a Committee be appointed to report permanent officers to the Convention.

The Committee was selected as follows: Ald. Silas Pearce, of Mass.; Dr. Edwin M. Snow, of Rhode Island; Prosper M. Wetmore, of New York; Mayor Bigelow, of Newark, N. J.; Dr. Lee W. Buffington, of Pennsylvania; Dr. James F. Wilson, of Delaware; Dr. Gilman, of Maryland; Dr. W. W. Wilson, of Virginia; Dr. John Darby, of Alabama; and Dr. Charles F. Force, of Dis. Columbia.

Mr. Wetmore, on behalf of the Committee on Nominations, then submitted the report of Committee, as follows:

For President—Dr. John H. Griscom, of New York.

For Vice-Presidents—The Hon. Frederick W. Lincoln, mayor of Boston; Dr. Edwin M. Snow, of Rhode Island; Dr. Jos. M. Smith, of New York; Dr. Isaac A. Nichols, of New Jersey; Dr. René La Roche, of Pennsylvania; Dr. James F. Wilson, of Delaware; Dr. Jacob W. Houck, of Maryland; Conway Whittle, of Virginia; Prof. John Darby, of Alabama; Francis Mohun, of the District of Columbia; Charles G. Cornell, President of the Board of Councilmen of New York; and Dr. Wm. A. Piper, of Pennsylvania.

For Secretaries—Charles H. Haswell, of New York; Dr. A. M. Bell, of Brooklyn; Dr. H. Sinclair Ash, of Pennsylvania; Dr. Eli D. Hinckle, of Maryland; Dr. Gabriel Grant, of New Jersey; and Dr. Henry G. Clark, of Massachusetts.

On motion, the nominations were acceded to unanimously.

The Secretary then distributed the printed report of the Committee on Quarantine of the last Convention.

On motion, the reports of the Committees on Quarantine and the Internal Hygiene of Cities, were made the special order for to-morrow morning.

On motion of Dr. E. Harris, a Committee to prepare business for the Convention was appointed.

The Chair appointed the following gentlemen as the Committee:

Drs. Harris, of New York; Jeffries, of Boston; Kemp, of Maryland; Darby, of Alabama; Nichols, of New Jersey; Force, of Washington, District of Columbia; Maberry, of Pennsylvania; Snow, of Rhode Island; Wilson, of Delaware; Baldwin, of New Jersey; Law, of Rhode Island; and Messrs. Ottarson, of New York; Parkhurst, of Newark; Henderson, of Baltimore; ex-Mayor Clickener, of Hoboken; Lovitt, of Norfolk; Mayor Rodman, of Providence, and Mayor Gregory, of Jersey City.

SECOND DAY.

Dr. Jeffries, of Boston, reported from the Business Committee, recommending the consideration of the second and third points of the report on Quarantine, viz.: "Have quarantines secured the objects for which they were intended? If not, the reasons of their failure;" and third, "What reforms are required to make quarantines more efficient and less burdensome?"

The report of the Business Committee was adopted, and the Secretary proceeded to read the report on Quarantine. The first part embracing a history of quarantine, was adopted by the convention without discussion. The second part, as to the failure of the quarantine systems, was then read. The report condemns the existing system of quarantine in emphatic language, as almost entirely useless, and exceedingly burdensome to the mercantile community.

Dr. McNulty, of New York, moved the adoption of that part of the report.

Dr. Guthrie, of Tennessee, thought that quarantine was protective only north of points where yellow fever could originate. He gave a brief history of the epidemic at Memphis, and its causes.

Dr. Tuthill, of New York, thought the report was of a rather dangerous character. Barbarous and restrictive as our quarantine has been, he had no doubt it had repeatedly saved New York and Brooklyn from the ravages of yellow fever.

Dr. Bell, of Brooklyn, said yellow fever was introduced into Brooklyn by the quarantine. It was confined to the quarantine storehouses and goods, and the streets adjacent. There was not a case which could not be traced to infected cargoes.

Dr. Harris, of New York, concurred generally with Dr. Bell. While he admitted that the yellow fever came from infected cargoes, yet he referred to cases in Brooklyn of unmistakable black vomit, where the disease could have only come through the atmosphere from sources of infection at the distance of several blocks. Imperfect as were our quarantine regulations, it may be that they prevented the city from being desolated by yellow fever.

On motion, the conclusions of the committee that "a judicious modification of the present unsound, ill-advised, and antiquated code of quarantine laws is absolutely necessary" were adopted as the opinion of the convention.

The third point in the report of the committee as follows, was then taken up and read:

III. That reforms are required to make quarantines more efficient and less burdensome.

Mr. Whittle, of Virginia, offered the following resolution:

Resolved, That the reception of the able reports by the Committee appointed at the last session of this Convention, is not to be regarded as an indorsement by this Convention of the theory of non-contagion, and the quarantine system being a failure.

Dr. James R. Wood, of New York, opposed the resolution. He moved the reference of the report back to the committee, to be amended and reported to the convention, with resolutions appended. The motion prevailed.

EVENING SESSION.

At half-past seven o'clock the session was resumed.

The special order of the evening, the report of the committee on the Internal Hygiene of Cities, was then taken up with immediate reference to the draft of an act submitted by the committee "for establishing general and local boards of health, and for other sanitary purposes." It recommends that the Governor and Senate of the States shall appoint five discreet men, three of whom shall be physicians, to be called a General Board of Health, to hold office for five years, to meet at such times as they shall deem expedient, and have their expenses paid out of the treasury of the States. It provides that they shall appoint a competent person who may also be a Registrar General, to be the Secretary and Actuary of the Board, also a competent physician, who shall be styled a Medical Health Officer, and a Surveyor and other officers which may be necessary to carry into effect the laws of the State. They are required to consider and decide upon sanitary questions submitted to them by the State, cities, towns, or local Boards of Health, to diffuse information on sanitary matters. The act authorizes the corporate authorities of various cities and towns to establish local Boards of Health, and to meet and enforce laws for promoting the sanitary interests.

The whole subject was laid upon the table for the present, in consideration of the late hour.

THIRD DAY.

The following resolution, offered by Dr. Alexander H. Stephens on Thursday, was taken up as the special order:

"In the absence of any evidence establishing the conclusion that yellow fever has ever been conveyed by one person to another, it is the opinion of this Convention that personal quarantine of cases of yellow fever may be safely abolished."

Dr. Stephens briefly supported his resolution by insisting on the theory that yellow fever was non-contagious.

Dr. Bell of Brooklyn supported the resolution. He perfectly agreed with Dr. Stephens that yellow fever was not contagious anywhere. The gentleman cited various cases in Vera Cruz, Pensacola, and elsewhere, in which his own experience proved that yellow fever could not be communicated from one person to another.

Dr. John W. Francis remarked that he had been acquainted with the theory of fevers for fifty years, and had read at least three hundred volumes on the subject. He had been acquainted with every case of yellow fever in New York from 1791, when the disease was de-

scribed by Adams, down to the last returns received from Staten Island. He stood there to speak for great New York, and he hoped that as she was the first to establish quarantine in this country, she would not be the first to abandon it altogether. He proceeded to give a résumé of the history of yellow fever from the time it appeared in Barbadoes, in 1791, down to the present time, and gave it as his opinion that the yellow fever cases at Peck-Slip, in 1791, and again in 1793, were importations from abroad. In 1798–99, 1801, 1803, 1805 and 1822 (when the fever started at Rector street), all these visitations were importations. He would, therefore, start with the theory that yellow fever was an exotic, and did not belong to this climate. He scouted the idea that all fevers were one, and remarked that Americans generalized too much.

Dr. Stephens replied, defending his resolutions and the doctrine of non-contagion. He asserted that there had never been a single case, in this climate at least, of indisputable personal contagion.

Dr. Bell offered an amendment to the resolution providing that *fomites* of every kind be rigidly restricted.

Dr. Stephens accepted the amendment.

Dr. Harris, in advocating the resolution, stated that in 1856 there were at least fifty cases of yellow fever transferred from the most populous parts of the city to Quarantine, many of them throwing up black vomit on the way, in the streets of the city and on the ferry-boats; and yet no persons who came in contact with these persons, as nurses or otherwise, had been known to take the disease.

Dr. La Roche, of Philadelphia, stated facts in relation to yellow fever. He instanced the case of a bark which had landed at the wharf of Philadelphia. Shortly after the hatches were opened there were several cases of yellow fever in the immediate vicinity of the vessel, which spread and produced one hundred and eighty cases. While this was so, not one stevedore or person employed in discharging the cargo was taken sick, nor did one take it who took the vessel below and scuttled her. They had concluded, therefore, that the fever did not proceed from the bark.

Prof. Geo. B. Wood, of Philadelphia, said it had been conceded that the present system of quarantine did harm. It was an injury to the persons quarantined, by keeping them exposed to yellow fever, by detaining them in their business, and to places by interfering with their commerce. Now if yellow fever could not be communicated personally, then the injury could be at once removed, and persons be permitted to go on their way. A leading French physician had visited the West Indies, and had consulted every physician who had ever treated yellow fever, and secured their opinions, which were almost unanimously to the point that yellow fever was not personally contagious. In his own experience, he had been through several attacks of yellow fever in Philadelphia, and he had never known a case where it had been personally communicated, and he therefore believed that it could not be thus communicated any more than bilious fever.

Mayor Rodman was not ready to vote intelligently upon the ques-

tion, and he suggested that a resolution like the following should be adopted as a compromise :

That we, the medical portion of this convention, are fully convinced in our own minds that there is no necessity of personal quarantine in cases of yellow fever. Still, while we express it as our views, we would, at the same time, not be understood throughout the United States in saying that we think it is for the interest of cities at the present time to adopt it in its fullness.

Dr. McNulty moved the adoption of the resolution of Dr. Stephens, modified by Dr. Bell, as follows :

Resolved, That, in the absence of any evidence establishing the conclusion that yellow fever has ever been conveyed by one person to another, it is the opinion of this convention that the personal quarantine of cases of yellow-fever may be safely abolished, provided that *fomites* of every kind be rigidly restricted.

The resolution was carried, by a vote of 70 yeas to 4 nays.

Dr. Kemp, of Md., in behalf of a minority of the committee to whom was referred the report on quarantine, for the purpose of adding resolutions, submitted the resolutions as follows :

Resolved, That the operations of quarantine should not be confined to the warm months of the year, inasmuch as a vessel arriving in mid-winter with smallpox or typhus on board, is as legitimate a subject for quarantine as one arriving in mid-summer.

Resolved, That the adoption, by the commercial nations, of a sound and well-digested code of marine hygiene, and of the necessary measures for insuring its strict enforcement, would tend greatly to alleviate the evils of the present system of quarantine, and promote the comfort of passengers and crew.

Dr. D. B. Read moved also the adoption of the following resolution :

Resolved, That this Convention appoint a committee to consider and report in what manner the foregoing resolution (of Dr. Kemp) may be most effectually carried out.

The resolutions were carried.

Dr. Kemp moved the adoption of certain modifications of the Report of the Committee on Quarantine, by which the sweeping denunciations of the present system were somewhat modified.

The motion prevailed, and the report, as modified, was adopted.

Dr. Stephens, of New York, offered the following resolution, which was adopted :

Resolved, That a committee of —— be appointed to report at the next meeting of the Convention specific regulations of quarantine, specially applicable to yellow fever, cholera, typhus fever, smallpox, having reference also to the variation which different localities require.

Dr. Clark, of Boston, then called up the report of the Committee on the Internal Hygiene of Cities. The several sections of the draft of the act appended were, with slight modifications, adopted.

The draft of ordinances for local Boards of Health, reported by the Committee on Internal Hygiene, was then taken up and discussed, and generally adopted. A certain portion was referred to a committee, with power to modify and perfect.

Dr. Harris, of the Business Committee, reported the following preamble and resolutions :

Whereas, The sanitary and economical interests of cities and large towns are directly, and in a very important manner, affected by the quality and condition of the various articles of food and the facilities for supplying them, and

Whereas, There are various other agencies and conditions incident to civic life, which have a direct and important influence upon the public and personal hygiene, and which, in our opinion, fall within the scope and functions of municipal and State regulations and control; therefore,

Resolved, That we recommend to the Convention that committees be appointed to investigate and report upon each of the following subjects at the next Sanitary Quarantine Convention:

1. A committee of three members to report upon food, its quality and condition in cities and large towns, and the facilities requisite for supplying the same, together with plans and suggestions for the proper location, arrangement of butchers' markets and *abattoirs*.

2. A committee of six members upon civic cleanliness, with plans for the proper disposition of offal, street cleansings, and night soil of cities.

3. A committee of three members to report upon the legal restrictions for the control of the sale of poisons and dangerous drugs.

4. A committee of three members to report upon architectural improvements with reference to personal and public hygiene.

The report and resolutions of the committee were adopted.

Mr. Viele, of New York, offered the following preamble and resolution:

Whereas, The carrying out of a proper system of drainage and sewerage in all incorporated cities is of necessity in the hands of the properly constituted authorities, and, as a consequence, beyond the control of private citizens, therefore,

Resolved, As the sense of this Convention, that the responsibility for all diseases and death caused by imperfect drainage or defective sewerage rests upon the corporate authorities of cities, and it is earnestly recommended to the authorities to thoroughly investigate and provide prompt remedies for the evils arising out of these causes.

The resolution was adopted.

On motion, Dr. Snow, of Rhode Island, was requested to continue his investigations on the question of Registration, and to report at the next annual Convention.

Gen. Wetmore moved that the proceedings of Convention be printed under the auspices of the authorities of the city of New York. The motion was carried.

FOURTH DAY.

Dr. J. Gilman, in order to awaken a more general interest in hygienic matters with the community at large, submitted the following preamble and resolutions:

Resolved, That the members of this Convention foster and encourage, as far as possible, the organization of Sanitary Associations in the several States, and especially in our large cities.

The resolution was adopted.

A communication was received from Dr. Jewell, of Philadelphia, submitting resolutions for the wide circulation of the Reports of External and Internal Hygiene, and urging the enactment of proper sanitary laws, the appointment of special Sanitary Commissions, etc.

Dr. Jewell's resolutions were adopted.

Motions were made for the publication of proceedings, etc.

On motion of F. E. Mather, Esq., the following resolution was adopted:

That a Committee be appointed by the President to inquire and report as to the organization and practical working of the Dispensaries in the cities of this and other countries, and as to their relation to public and personal hygiene.

On motion of Dr. E. Harris, a committee of three members was appointed to report upon those sources of malaria or miasmata that should be subject to the control of the State or municipal authorities.

After the usual vote of thanks to the officers of the Convention, and to the municipal authorities, the Convention adjourned to meet in Boston, June 14, 1860.

CONVENTION OF MEDICAL TEACHERS.

ASSEMBLED AT LOUISVILLE, MAY 2, 1859.

The Convention of Medical Teachers was called under the following resolution, adopted at the eleventh annual meeting of the American Medical Association, held at Washington City last year:

Resolved, That we recommend to all the medical colleges entitled to a representation in this body, that they appoint delegates especially instructed to represent them in a meeting to be held at Louisville on Monday, the day immediately preceding the convention of the American Medical Association for the year 1859, at ten o'clock in the morning, at such place as the committee of arrangements shall designate.

At the hour of 10, the Convention was called to order, and Prof. Dixi Crosby, of Dartmouth College, Hanover, N. H., was selected as chairman, and Prof. George C. Blackman, of Ohio Medical College, at Cincinnati, as secretary.

Some discussion then ensued as to the mode of organization, some wishing all medical professors present to act as delegates, and others desiring that each college should have a unit representation. The following resolution was submitted by Dr. David F. Wright, of Shelby Medical College:

Resolved, That all members of the Faculties of Medical Colleges now present shall be considered members of this convention, but that where more than one belongs to the same college, one of them alone shall vote in behalf of that institution.

On motion of Dr. A. H. Baker, of Cincinnati, the following substitute was offered and adopted:

Resolved, That a committee of three on credentials be appointed by the chair.

Under this resolution, Prof. Crosby selected Drs. Baker, Shattuck and Haskins, as the Committee on Credentials.

The Convention was then permanently organized by the reëlection of the temporary officers.

Dr. Wright's resolution, that members from Medical Colleges who are now present be permitted to take part in debates, but that each college have but one vote, was again taken up, considered and passed.

Dr. N. S. Davis offered the following, which was adopted :

Resolved, That a business committee of five be appointed by the Chair, to report propositions for the action of the convention.

The Chair appointed Drs. N. S. Davis, Gunn, Frost, Shattuck and Yandell. After a short recess, to enable this committee to report, they submitted the following through Dr Davis, the chairman :

1. *Resolved*, That this convention recognizes the great advantages to be derived from the action of the American Medical Association in prescribing the terms and conditions on which medical degrees shall be conferred, and licenses to practise medicine shall be granted; and that an expression of opinion as to methods or periods of instruction from the American Medical Association should be received with deference and respect, and that all pains should be taken to enforce any rules and regulations recommended by that body.

2. *Resolved*, That this convention earnestly recommend the American Medical Association to adopt such measures as will secure the efficient practical enforcement of the standard of preliminary education adopted at its organization in May, 1847; and that the medical colleges will cheerfully receive and record the certificates alluded to in said standard, whenever the profession generally and the preceptors will see that students are properly supplied with them.

3. *Resolved*, That no medical college should allow any term of practice to be a substitute for one course of lectures in the requisition for graduation.

4. *Resolved*, That Hospital Clinical Instruction constitutes a necessary part of medical education, and that every candidate for the degree of Doctor in Medicine should be required to have attended such instruction regularly for a period of not less than five months during the last year of his period of medical pupilage.

5. *Resolved*, That every medical college should rigidly enforce the rule requiring three full years of medical study before graduation, and that the diploma of no medical college shall be recognized which is known to violate this rule.

Prof. Wright, of Nashville, moved that the resolutions of the report be considered *seriatim*—and, the first being taken up, he spoke at length in opposition to it, giving a history of the previous difficulties between the American Medical Association and the medical colleges. He could neither vote for such a resolution, nor could he take any future part in the proceedings of a convention which should adopt it.

Prof. Brainard, of Chicago, thought this convention was asked to take a step fraught with peril to the harmony of the profession and its best interests ; it should be met on the threshold and a solemn protest entered against it. This body did not represent the medical colleges of the country with unanimity—New York, Philadelphia and New Orleans, are not represented here, and he must consider their absence as a protest against the assumption of any power on the part of this body, or the American Medical Association, to dictate the terms on which the colleges should confer their degrees or receive their students. The admission of such a resolution would produce hostile factions, both in the profession and in the colleges, and could never receive the sanction of those who had independent, chartered rights to fall back upon. He was opposed to no true improvement in the medical profession, but he did object to shutting that door upon young men desirous of entering the profession through which we ourselves all had entered.

Without definite action on the resolution, the convention adjourned until 3 o'clock P.M.

AFTERNOON SESSION.

When the Convention reassembled, Dr. Bayless offered the following amendments to the first resolution :

1. To substitute in the second line the word "recommending" for "prescribing."
2. To strike out all after the words "deference and respect."

A long discussion ensued on the resolution. Prof. L. S. Joynes, of the Medical College of Richmond, Va., offered the following preamble and resolutions as a substitute for the resolutions from the Business Committee :

WHEREAS, It appears that a large proportion of the medical colleges of the United States are unrepresented in this convention, and no changes in the present system of education can be effectual unless adopted by the schools generally—

Resolved, That it is inexpedient at this time to take any action upon the proposition contained in the report presented by the Special Committee on Medical Education, at the last meeting of the American Medical Association.

Resolved, That with the view of obtaining a more general union in counsel and in action upon this important subject, this convention do now adjourn, to meet again on the day preceding the next annual meeting of the American Medical Association, at the place which may be agreed upon for said meeting, and that the several medical colleges in the United States be requested to appoint each one delegate to such adjourned meeting of this convention.

These resolutions were amended, at the suggestion of Dr. Wright, to include the appointment of a committee of five, to take into consideration, during the recess, the various matters referred to in the resolutions, and to report thereon at the adjourned meeting.

The vote was demanded on this by colleges, and resulted as follows :

Yeas—Shelby Medical College, Missouri Medical College, St. Louis Medical College, Oglethorpe Medical College, Ohio Medical College, Western Reserve Medical College, Kentucky School of Medicine, Medical College, Richmond, Atlanta Medical College, Rush Medical College—10.

Nays—Medical College, S. C., Medical College, Ga., Medical Department, University, Mich., University of Louisville, Cincinnati College of Medicine, Lind University, Iowa University, Medical College Memphis, Harvard University—9.

The substitute was declared adopted, yeas 10, nays 9, and so the convention stood adjourned until the day preceding the next annual meeting of the American Medical Association.

The chairman appointed the following committee under the above resolution : Drs. Yandell, Shattuck, Blackman, Campbell and Gunn.

TWELFTH ANNUAL MEETING OF THE AMERICAN MEDICAL ASSOCIATION.

LOUISVILLE, KY., MAY 3d, 1859.—The Association convened in Mozart Hall, at 11 o'clock, A.M., and was called to order by the President, Dr. Harvey Lindsly, in the chair, supported by Vice-Presidents Drs. W. L. Sutton and T. O. Edwards. The other officers present were the Secretaries, Drs. A. J. Semmes and S. M. Bemiss, and Treasurer Casper Wister.

The President introduced Rev. Stuart Robinson, of Louisville, who opened the proceedings with prayer.

The chair then declared the Association duly organized, and announced as first in order of business the report of the Committee of Arrangements.

Dr. R. J. Breckinridge, chairman of this committee, reported.

Dr. J. B. Flint, chairman of a committee appointed by the State Medical Society of Kentucky to receive the American Medical Association, accompanied by Drs. W. L. Sutton, C. H. Spilman, W. S. Chipley, and W. C. Snead, came forward and addressed the Association in a few pertinent remarks of encouragement and welcome.

The following members were reported as the nominating committee:

New Hampshire, Dixi Crosby; Massachusetts, Solomon D. Townsend; Rhode Island, J. H. Eldridge; New York, D. M. Reese; New Jersey, A. N. Dougherty; Pennsylvania, R. K. Smith; Delaware, H. F. Askew; Maryland, G. W. Lawrence; District Columbia, Cornelius Boyle; Virginia, L. S. Joynes; North Carolina, Edward Warren, Jun.; South Carolina, J. M. Gaston; Georgia, John W. Jones; Alabama, J. B. Coons; Louisiana, S. O. Scruggs; Tennessee, E. B. Haskins; Kentucky, D. D. Thompson; Ohio, George Fries; Indiana, J. H. Brower; Michigan, William Brodie; Illinois, C. Goodbrake; Missouri, M. L. Linton; Iowa, D. L. McGugin; Wisconsin, C. B. Chapman; Army, Charles S. Tripler.

The President then appointed the following committee on voluntary essays: Drs. L. P. Yandell, of Kentucky, James Bryan, of Philadelphia, and C. G. Comegys, of Ohio.

Dr. Harvey Lindsly, the President of the Association, read his retiring address, which was listened to with marked attention, and was an eloquent tribute to the dignity of the medical profession and the importance of its improvements.

Dr. Casper Wister, chairman of the Committee on Publication, read the annual report, and on motion of Dr. Sayre, of New York, the following resolutions appended to it were adopted:

Resolved, That hereafter every paper intended for publication in the Transactions must not only be placed in the hands of the Committee of Publication by the first of June, but it must also be so prepared as to require no material alteration or addition at the hands of the author.

Resolved, That authors of papers be required to return their proofs within two weeks after their reception, otherwise they will be passed over and omitted from the volume.

AFTERNOON SESSION, 3 O'CLOCK.—Dr. W. L. Sutton, one of the Vice-Presidents, took the chair in the absence of the President.

The Committee on Nominations, reported the following officers for the ensuing year:

President—Henry Miller, of Kentucky.

Vice-Presidents—H. F. Askew, Delaware; Charles F. Tripler, U. S. Army; L. A. Smith, New Jersey; Calvin West, Indiana.

Treasurer—Casper Wister, Pennsylvania.

Secretary—S. M. Bemiss, Kentucky.

The report was unanimously agreed to.

Dr. R. J. Breckinridge moved that the thanks of the Association be tendered to the retiring officers for the faithful and assiduous manner in which they have conducted the business committed to their charge, which was unanimously adopted.

Upon motion of Dr. Edwards, all applications for membership by

invitation were referred to the Committee of Arrangements and Credentials.

Dr. J. B. Lindsly, of Tennessee, offered the following:

Resolved, That a committee of three be appointed by the chair to inquire into and report upon the propriety of dividing the Association into sections for the purpose of performing such parts of its scientific labors as may relate to particular branches of medicine and surgery.

Dr. Brainard explained at some length the object of the resolution of inquiry, and urged its adoption as the means of giving more effect and usefulness to the proceedings of the Association, the reports of which had heretofore gone out unmatured, in consequence of the want of concentrated action.

The motion of Dr. Lindsly was adopted.

The Chair appointed as the committee, Dr. Lindsly, of Tennessee, Dr. Brainard, of Illinois, Dr. G. C. Blackman, of Ohio.

The following report from the Committee on Medical Ethics was read, and such portion of it as related to the action of the Dubuque Medical Society in the case of an expelled member, was, on motion of Dr. T. O. Edwards, made the special order for 12 M. to-morrow.

To the American Medical Association:

The Committee on Medical Ethics beg leave to state that, of the subjects referred to them at the last meeting of the Association, they find the following notice in the minutes:

"Dr. Grant, of New Jersey, presented a complaint made by the Newark Medical Society against the New York Medical College, for a violation of the ethics of the profession. Dr. Edwards, of Iowa, presented a similar complaint; and Dr. Oakley, of New Jersey, a complaint from the Union and Essex County Medical Society."—*Transactions*, vol. xi., p. 41.

Upon these several complaints your committee beg leave most respectfully to report:

That the two complaints from the Medical Societies of New Jersey refer only to one and the same grievance, the particulars of which are set forth in a memorial which was presented to the American Medical Association on the 6th of May, 1858, and which is entitled, "Statement of the Newark Medical Association in reference to a Diploma granted by the New York Medical College."

The facts stated in the memorial which is now appended to this report, were, during the last annual meeting of the American Medical Association, examined as carefully as time and opportunity would allow. The charges therein contained against the New York Medical College were admitted to be true by Dr. Horace Green, President of said College, who, in apology for the same, submitted a written statement to your committee, which was at the time accepted as satisfactory by the gentlemen then present before your committee on behalf of the parties aggrieved; and being afterward presented with a verbal report by the committee was received and entered upon the minutes in the following terms:

"Whereas, it appears from undoubted testimony that the New York Medical College have conferred the degree of Doctor of Medicine upon a notorious quack of the name of John F. Dunker, of Newark, the faculty, in the person of the President of said College, wish here to declare that the degree was obtained under gross deception and false testimonials furnished by said Dunker and his friends, and they therefore revoke and annul his diploma, and declare said Dunker to be unworthy of patronage or support from authority conferred upon him by this diploma."—*Transactions*, vol. xi., p. 49.

These complaints being thus disposed of, your committee have only to add in reference to them that the memorial presented to the American Medical Association from the Newark Medical Association is worthy of special notice, as setting forth the negli-

gent manner in which mere verbal and hearsay statements are at times accepted in place of authentic written testimonials, from individuals presenting themselves as candidates for the honors of our profession at some of the medical colleges of this country. In this respect there is reason to believe that the New York Medical College does not stand alone; and the publication of the accompanying memorial may be of service in putting a permanent check to this crying evil.

The only other complaint referred to your committee was that presented by Dr. Edwards, of Iowa, preferring a charge from the Dubuque Medical Society against one of her members, who had been expelled for an alleged infraction of the code of medical ethics. This complaint does not appear to be of such a character as to require abjudication here. It has, since the last annual meeting of the American Medical Association, been adjudged by the Iowa State Medical Society, [see transactions of the annual meeting of said society, published at Dubuque, Iowa, 1858,] and having been then settled in the State in which the parties reside, it should now be dismissed.

All of which is respectfully submitted.

JOHN WATSON, M. D., Chairman.

NEW YORK, April 28, 1859.

The Special Committee on Government Meteorological Reports made a report, written by Dr. R. H. Coolidge, of the U. S. Army, but read by Dr. Paul F. Eve, of Tennessee, which was referred to the Committee on Publication.

The committee appointed in May, 1857, on Criminal Abortion, submitted a report written by Dr. Storer, of Boston, which was read by Dr. Blatchford, of New York, and referred to the Committee on Publication. The following resolutions appended to this report were unanimously adopted:

Resolved, That while physicians have long been united in condemning the act of producing abortion at every period of gestation, except as necessary for preserving the life of either mother or child, it has become the duty of this Association, in view of the prevalence and increasing frequency of the crime, publicly to enter an earnest and solemn protest against such unwarrantable destruction of human life.

Resolved, That in pursuance of the grand and noble calling that we profess—the saving of human lives—and of the sacred responsibilities thereby devolving upon us, the Association present this subject to the several Legislative Assemblies of the Union, with the prayer that the laws by which the crime of procuring abortion is attempted to be controlled may be revised, and that such other action may be taken in the premises as they in their wisdom may deem necessary.

Resolved, That the Association request the zealous cooperation of the various State Medical Societies in pressing the subject upon the Legislatures of their respective States, and that the President and Secretaries of the Association are hereby authorized to carry out by memorial these resolutions.

SECOND DAY.

WEDNESDAY, MAY 4, 1859.—The President, Dr. Miller, called the Association to order at 9 o'clock.

Dr. Reese, Chairman of the Committee on Nominations, called attention to the fact that the committee could not act definitely until the place for the next year's meeting should be designated. He stated, also, that the Medical State Society of Connecticut had requested that an amendment to the constitution, proposed two years since, should be taken from the table, relative to the time of meeting.

It was moved by Dr. Blatchford, and seconded by Dr. Sayre, that

the amendment to the third article of the constitution be taken up, which proposes to add after the words "first Tuesday of May," the words "or first Tuesday of June," and after the words "shall be determined," add the words "with the time of meeting." The amendment was adopted by a constitutional vote.

Dr. Reese called attention to the necessity of some radical change in the mode of appointing committees to prepare treatises on scientific subjects to be reported at the annual meetings. It had been seen, that on yesterday, a large majority of the committees made no reports, and did not even see proper to send in any communication explanatory of delay. The difficulty heretofore has originated in the mode of selection adopted by the nominating committee. It has been customary for gentlemen to hand in their names and the proposed subjects, on slips of paper, and the committee, without further investigation, have so published in the annual reports. Thus, it has happened that appointments have been most injudiciously made, and gentlemen to whom a special duty has been assigned, have been found to know less of that than any other subject. He therefore hoped that no committee of last year would be reappointed, or continued, from which no report had been had and no communication received.

On motion, the Nominating Committee was unanimously instructed to act upon the suggestions of the chairman, who also stated that there should be some definite expression of disapprobation as to the course of these gentlemen who had volunteered essays, and had their names reported in the newspapers and spread over the land, and then paid no attention to the matter.

Dr. Flint, from the Committee on Prize Essays, begged leave to report that they received four dissertations in time for a careful and thorough examination, and two others, quite voluminous, only two days before the meeting of the Association. The latter we have felt constrained to exclude altogether from the competition of the present year, on account of the absolute impossibility of reading them with a critical purpose and effect. The others have been carefully examined by all the surviving members of the committee—one estimable associate, Dr. Evans, having been called from all his earthly labors before the active duties of the committee began.

More than one of the four essays we examined, exhibited much labor, and a commendable scholarship in their preparation—are voluminous, and in some respects very meritorious papers; but in the unanimous judgment of the committee, neither of them possesses the degree and species of merit which should entitle its author to the Association prize.

The committee beg leave furthermore to report, that in their opinion, and as the suggestion of their own recent experience, the Association should determine, in more precise and formal manner than has yet been done, the terms and conditions of competition and of success in the contest for prizes, for the government alike of contestants and the committee of adjudication, and that a committee be now appointed to consider and report upon that subject.

Dr. Gordon, Chairman of Committee on Etiology and Pathology of Cholera, made a partial report, and asked continuance of time.

On motion, the report was accepted, and referred to Committee on Publication, and petition for continuance referred to Nominating Committee.

Dr. J. B. Lindsly, chairman of the committee appointed to inquire into the propriety of dividing the Association into sections for the better performance of its work in considering the various branches of medicine and surgery, recommended the adoption of such a plan as being indispensably necessary to making this body a working scientific association. They do not deem it necessary to enter into any argument in favor of this plan, it being the one already universally adopted by similar bodies. They would simply recommend, for the present, a division into the following sections, as being most suitable to facilitate the transaction of business, viz.: 1. Anatomy and Physiology; 2. Chemistry and Materia Medica; 3. Practical Medicine and Obstetrics; 4. Surgery.

The committee do not propose that this subdivision of labor shall in any manner interfere with the regular business of the Association as now conducted; but only that after having assembled each day in general session, each section shall meet separately for the purpose of hearing and discussing papers on such subjects as properly belong to them, and they therefore recommend that the Committee of Arrangements for the ensuing year, be requested to provide suitable accommodations for the services of these sections, and that each of said sections shall be authorized to make such arrangements as may be required for the proper transaction of its business.

This report was considered and adopted.

Dr. J. W. Singleton of Ky., moved the suspension of the rules for the introduction of the following:

Resolved, That in the death of Dr. A. Evans, of Kentucky, the Association has lost one of its most manly and efficient members, and society a friend and benefactor.

The resolution was unanimously adopted.

Dr. W. L. Sutton, under the resolution appointing a committee on registration of birth, marriages, etc., proposed a plan of general action, an abstract of which he read, on motion of Dr. Gibbes, of South Carolina; and, on motion of Dr. L. P. Yandell, the subject was referred to a committee, to report during the present session.

Drs. W. L. Sutton, J. B. Lindsly, R. W. Gibbes, Jr., James Bryan, Z. Pitcher, and G. C. Shattuck, were appointed such committee.

A report from Dr. Thomas M. Logan, of California, on Medical Topography and Epidemics, was received, and referred to the Committee on Publication.

The chairman of the Committee on Voluntary Essays, stated that he had received a paper on a case of extra-uterine fœtation, from Dr. Enos Hoyt, of Transylvania, Mass., and another on a case of accidental poisoning by strychnia, from Dr. Douglas Bly, of Rochester, N. Y. He also presented a very voluminous paper, entitled "Observations on some of the changes of the Solids and Fluids in Malarial Fever, by Joseph Jones, Professor of Medical Chemistry in the Medical College of Georgia, at Augusta."

By request, Prof. Jones gave a verbal abstract of his paper, and an exposition of his theory, and on motion of Dr. D. W. Yandell the communication was referred to the Committee on Publication.

Dr. J. B. Flint offered the following resolution :

Whereas, Our brethren of Great Britain are engaged in erecting a monument to the memory of John Hunter, whose invaluable services in behalf of Physiology and Surgery are recognized and honored, as well on this side of the Atlantic as in Europe; and whereas, this Association, as the representatives of American Medicine, would rejoice in some suitable manner to participate in so grateful a testimonial of gratitude and respect; therefore,

Resolved, That a committee of three be appointed to consider in what manner this participation can best be effected, so as to be acceptable to our British brethren, and consistent with our own means and opportunities of action, with instructions to report at the next annual meeting.

The resolution was adopted, and Drs. Flint, Bowditch, and Shattuck appointed as the committee.

Dr. Harvey Lindsly offered the following:

Whereas, Parliamentary rules of order are numerous, complicated, sometimes obscure, and often inapplicable to such a body as the American Medical Association; and whereas, from the nature of the pursuits of medical men, they cannot be familiar with these rules; therefore,

Resolved, That a select committee of three members be appointed to prepare a system of rules for the government of the Association, as few in number, as concise, and as perspicuous as possible, to be reported at the next annual meeting.

This resolution was adopted, and Drs. H. Lindsly, C. G. Comegys, and T. W. Blatchford, appointed as a committee.

The Nominating Committee made the following report:

The next annual meeting to take place at New Haven, on the first Tuesday of June, 1860. Dr. Eli Ives to be junior secretary.

Committee of Arrangements.—Drs. Chas. Hooker, Stephen G. Hubbard, and Benjamin Silliman, jr., with power to add to their numbers.

Committee on Prize Essays.—Drs. Worthington, Hooker, Conn.; G. C. Shattuck, Mass.; Usher Parsons, R. I.; P. A. Jewett, Conn.; and Jonathan Knight, Conn.

Committee on Publication.—Drs. F. G. Smith and C. Wister, Philadelphia, Pa.; S. M. Bemiss, Louisville, Ky.; E. Ives, New Haven, Conn; Hollingsworth and Hartshorne, Philadelphia, Pa.; and Askew, Wilmington, Del.

Committee on Medical Literature.—Drs. Henry Campbell, Ga.; D. F. Wright, Tenn.; O. Wendell Holmes, Mass.; S. G. Armor, Ohio, and W. H. Byford, Ill.

Committee on Medical Education.—Drs. D. M. Reese, N. Y.; W. K. Bowling, Tenn.; Chas. Fishback, Ind.; John Bell, Penn.; Z. Pitcher, Mich.

The following Special Committee were appointed :

On Morbus Coxarius, and Surgical Pathology of Articular Inflammation.—Dr. Lewis A. Sayre, of New York.

On the Surgical Treatment of Strictures of the Urethra—Dr. James Bryan, of Philadelphia.

On Drainage and Sewerage of Large Cities, their Influence on Public Health.—Dr. A. J. Semmes, D. C., chairman, Cornelius Boyle, and G. M. Dove.

On Puerperal Tetanus, its Statistics, Pathology, and Treatment.—Dr. D. L. McGugin, of Keokuk, Iowa.

On Hospital Epidemics—Dr. R. K. Smith, of Philadelphia.

On Puerperal Fever.—Dr. S. N. Green, of Stilesville, Ind.

On Anæmia and Chlorosis.—Dr. H. P. Ayres, of Fort Wayne, Ind.

On Veratrum Viride.—Dr. James B. McCaw, of Richmond, Va.

On Alcohol, its Therapeutical Effects.—Dr. J. R. W. Dunbar, of Baltimore, Md.

On Meteorology.—Dr. J. G. Westmoreland, Atlanta, Ga.

On Milk Sickness.—Dr. Rob't Thompson, Columbus, Ohio.

On Manifestations of Disease of Nerve Centres.—Dr. C. B. Chapman, of Wisconsin.

On the Medical Topography of Iowa.—Dr. T. O. Edwards, Iowa

On Microscopic Observations on Cancer Cells.—Dr. Geo. D. Norris, Newmarket, Alabama.

On the Philosophy of Practical Medicine.—Dr. James Graham, Cincinnati, Ohio.

On Some of the Peculiarities of the North Pacific, and their Relation to Climate.—Dr. Wm. H. Doughty, Ga.

The following Special committees were continued or altered :

On Microscope.—Drs. John C. Dalton, jr., N. Y.; David Hutchinson, Ind.; A. R. Stout, Cal.; Calvin Ellis, Mass., Christopher Johnston.

On Diseases and Mortality of Boarding-Schools.—Dr. C. Mattingly, Ky.; and Dixi Crosby, N. H.

On the Various Surgical Operations for the Relief of Defective Vision.—Drs. M. A. Pallen, Mo.; T. J. Cogley, Ind.; and W. Hunt, Penn.

On the Blood Corpuscle.—Dr. A. Sager, Michigan.

On American Medical Necrology.—Dr. C. B. Cox, Maryland.

On the Hygienic Relations of Air, Food, and Water, the Natural and Artificial Causes of their impurity, and the best methods by which they can be made most effectually to contribute to the Public Health.—Dr. C. B. Cox, Maryland.

On the Effect of Virus of Rattlesnakes, etc., when introduced into the system of Mammalia.—Dr. A. S. Payne, Virginia.

On the Climate of the Pacific Coast, and its Modifying Influences upon Inflammatory Action and Diseases generally.—Dr. O. Harvey, California.

On the Constitutional Origin of Local Diseases, and the Local Origin of Constitutional Diseases.—Drs. W. H. McKee, of North Carolina, and C. F. Heywood, of New York.

The Association took up the special order, being the report on Medical Ethics, to which had been referred the action of the Dubuque Medical Society, which, after debate, was laid over until 12 o'clock tomorrow.

On motion of Dr. H. F. Campbell, a section of meteorology, medical topography, and epidemic diseases, and of medical jurisprudence and hygiene was added to those already adopted by this Association.

The Association then proceeded to consider and act upon amendments to the Constitution proposed at the last annual meeting and laid over under the rules. The following amendment was adopted:

Resolved, That the Constitution of this Association be so amended as to provide, that no individual who shall be under sentence of expulsion or suspension from any State or Local Medical Society, of which he may have been a member, shall be received as a delegate to this body, or be allowed any of the privileges of a member, until he shall have been relieved from the sentence by such State or Local Society.

The next amendment lying over from last year, was the proposition of Dr. Kyle, of Ohio.

That the Constitution of the Association be so amended as to prohibit the admission as a delegate or the recognition as a member of any person who is not a graduate of some respectable medical college.

This amendment was rejected, but, on the question of reconsideration, a long and animated debate ensued. Without arriving at a vote, the Association adjourned for dinner.

AFTERNOON SESSION.—The Association was called to order at 3 P.M., Dr. H. F. Askew in the chair. The discussion on the amendment under consideration at the hour of adjournment was renewed.

Dr. Kincaid moved a further amendment to insert the word "hereafter" after "prohibiting."

The Chair ruled the amendment out of order at the present stage, or until the Association decides upon the question of reconsideration.

After a long discussion, Dr. Davis, of Indiana, moved to lay the motion to reconsider on the table, which was carried, 97 yeas, nays not counted, so the amendment stands registered.

The next proposed amendment to the Constitution was that suggested by the New Jersey Medical Society, asking for such changes as would establish a Board of Censors in every judicial district of the Supreme Court, who should examine and grant diplomas to all proper members of the Association.

This was temporarily laid on the table for Dr. Crosby to offer a report of the Medical Teachers' Convention which met on Monday last. He strongly recommended a committee from this body to confer with the Teachers' Committee, and felt great confidence that something beneficial to medical education would be the effect of such conference.

Dr. Comegys moved the appointment of a committee of five to committee of Medical Teachers and report at the next annual meeting, provided that no Medical Teacher be selected on the part of this Association.

Dr. T. M. Blatchford, of New York, offered as a substitute the folowing preamble and resolution:

Whereas, Of all the subjects which can engage our attention in our associate capacity, that of Medical Education is paramount; and Whereas, harmony of action is essential to success in establishing definite qualifications entitling to admission in our ranks; and Whereas, nothing can be gained by hasty action in a matter so vital to our very existence, as a permanent Medical Institute. Therefore,

Resolved, That further action be suspended for the present upon the subject of the resolutions offered at the last meeting of the Association, by the Chairman of the special committee on Medical Education, and that a committee, consisting of S. W. Butler, of Pennsylvania, L. A. Smith, of New Jersey, Dixi Crosby, of New Hampshire, C. A. Pope, of Mo., and T. Buckler, of Maryland, shall be appointed to confer with the committee appointed at the meeting of Medical Teachers, to report some plan for action at the next meeting of the Association.

This amendment was lost, and the original resolution adopted.

The resolutions from the New Jersey Medical Society were then taken from the table and referred to the Committee of Conference.

Dr. Davis offered a resolution instructing the same committee to confer with the State Medical Societies for the purpose of procuring more decisive and uniform action throughout the profession in carrying into effect the standard of preliminary education adopted by this Association at its organization in 1847. This was carried.

Dr. Gibbes, from the committee to examine into a plan of uniform registration of births, marriages, and deaths, offered the following report:

They have given the same a careful consideration, and they unanimously recommend that the report be adopted and referred to the Committee on Publication.

They also recommend that the same Committee be continued, with instructions to add to the Report in time for publication in the ensuing volume of Transactions a form of registration law which may be likely to answer the requirements of the several States.

Dr. Sayre, of New York, offered the following:

Whereas, The medical profession at large have an interest in the character and qualifications of those who are to be admitted as their associates in the profession: therefore,

Resolved, That each State Medical Society be requested to appoint annually two delegates for each college in that State, whose duty it shall be to attend the examination of all candidates for graduation: and that the colleges be requested to permit such delegates to participate in the examination and vote on the qualifications of all such candidates.

This was, on motion, referred to the committee of conference.

The paper of Dr. Jones, presented at the morning session, was taken from the Committee on Publication and referred to the Committee on Prize Essays.

Dr. Eve moved to record the name of Dr. Benj. W. Dudley as a permanent member, which was adopted by a unanimous vote, the delegates all rising to their feet in token of respect.

THIRD DAY.

THURSDAY, MAY 9, 1859.—The President called the Association to order at 9 o'clock, and the reading of the minutes of yesterday was dispensed with.

The first business in order was an amendment to the Constitution, laid over from last year, and proposed by Dr. T. L. Mason, of New York, to insert in the first line of the second paragraph of Article 2, after the words "shall receive the appointment from," the words, "any medical society permanently organized in accordance with the laws regulating the practice of physic and surgery in the State in which they are situated, and consisting of physicians and surgeons regularly authorized to practise their profession."

Also, to add to the sixth paragraph of the same article the words, "but each permanent member of the first class designated in this plan of organization shall be entitled to a seat in the Association on his presenting to this body a certificate of his good standing, signed by the Secretary of the Society to which he may belong at the time of each annual meeting of this body."

Dr. Lyndon A. Smith, of New Jersey, said amendments to the Constitution should be adopted with care, and though, perhaps, that now proposed might be desirable, still, as Dr. Mason, who had proposed it, was not present to explain his views, he moved that the subject be laid over until next year. This suggestion was adopted.

Another constitutional amendment, proposed by Dr. Henry Hartshorne, of Pennsylvania, and laid over from last year under the rules, provides to add to the second article the words, "No one expelled from this Association shall at any time thereafter be received as a delegate or member, unless by a three-fourths vote of the members present at the meeting to which he is sent, or at which he is proposed."

This amendment was adopted.

Another amendment proposed by J. Berrien Lindsly, of Tennessee, was called up, to omit in Article 2, the words, "medical colleges, hospitals, lunatic asylums, and other permanently organized medical institutions in good standing in the United States;" and also to omit the words, "The faculty of every regularly constituted medical college or chartered school of medicine shall have the privilege of sending two delegates. The professional staff of every chartered or municipal hospital containing a hundred inmates or more shall have the privilege of sending two delegates, and every other permanently organized medical institution of good standing shall have the privilege of sending one delegate."

This was laid on the table until the next annual meeting.

Dr. McDermot submitted the following resolutions:

Whereas, a vast proportion of the disease and misery that afflict our race is caused by the excessive use of intoxicating liquors, and whereas, in the opinion of this Association, the evils of intoxication can be most effectually remedied by the establishment of Inebriate Asylums, wherein the victims of intemperance may be subjected to such restraints and treatment as shall effect a thorough reformation of their habits; therefore,

Resolved, That this Association recommend the establishment of Inebriate Asylums in the various States of the Union.

Resolved, That the State and County Medical Societies and all members of the medical profession be requested to unite in diffusing among the people a better knowledge and appreciation of the beneficent purposes and important benefit that would be conferred upon society by the establishment of such Asylums throughout the various sections of the country.

This resolution was referred to the mover as a special committee, with a request that he would report thereon at the next meeting of the Association.

Dr. Shattuck offered the following, which was adopted:

Resolved, That the committee appointed in May, 1857, on Criminal Abortion, be requested to continue their labors, and especially to take all measures necessary to carry into effect the resolutions reported by them on the first day of the meeting.

Dr. Yandell, from the Committee on Voluntary Essays, made a further report, that a communication had been received from Dr. Sanger, of Iowa, on Subcutaneous Injections as remedials, which, on motion, the author read.

The essay was referred to the writer as a special committee, with the request that he would report further at the next annual meeting of the Association, and continue his investigations.

The President appointed as the Committee of Conference to meet the committee from the Teachers' Convention, the following gentlemen:

Drs. Blatchford, Troy, N. Y.; Condie, Philadelphia, Pa.; Bozeman, Montgomery, Ala.; Brodie, Detroit, Mich., and Sneed, Frankfort, Ky.

The Nominating Committee made the following final report:

Special Committees continued.

On Quarantine.—Drs. D. D. Clark, Pa.; Snow, R I.; Jewell, Pa.; Fenner, La., and Houck, Md.

On Medical Ethics.—Drs. Schuck, Pa.; Murphy, O.; Linton, Mo.; Powell, Ga.; Eve, Tenn.

On Tracheotomy in Membranous Croup.—Dr. A. N. Dougherty, N. J.

The Effects of the Perineal Operations for Urinary Calculi upon Procreation in the Male.—Dr. J. S. White, Memphis, Tenn.

On Mercurial Fumigation in Syphilis.—Dr. D. W. Yandell, Louisville, Ky.

On the Improvements in the Science and Art of Surgery, made during the last half century.—Dr. Jos. McDowell, St. Louis, Mo.

On the Cause and Increase of Crime and its Mode of Punishment.—Dr. W. C. Sneed, Frankfort, Kentucky.

On the Education of Imbecile and Idiot, Children.—Dr. H. P. Ayres, Fort Wayne, Ind.

On the Uses and Abuses of the Speculum Uteri.—Dr. C. H. Spilman, of Kentucky.

On the Topography of Vermont.—Dr. Perkins, of Vermont.

On the Pons Varolii, etc.—Drs. S. B. Richardson, of Kentucky, and Fishback, of Indiana.

On the Physiological Effects of the Hydro-carbons.—Dr. F. W. White, of Illinois.

Honorary resolutions were passed to the memory of the following members of the Association, deceased:

Dr. W. M. Boling, of Alabama; Dr. Thomas D. Mütter, of Pennsylvania; Dr. P. C. Gaillard, of South Carolina; D. Jabez G. Goble, of New Jersey; Dr. John K. Mitchell, of Pennsylvania.

Dr. R. K. Smith, of Philadelphia, submitted the following:

Resolved, That the death of Dr. John K. Mitchell, one of the members of this Association, has been to this body a loss keenly felt by every man who knew him. His eminence as a teacher, his varied acquirements in every department of learning, and his generous social qualities in every relation, endeared him to every member of the profession who had the pleasure of his personal acquaintance.

Resolved, That the family be notified of the action of this Association.

Dr. Sayre offered the following, which were adopted by acclamation:

Resolved, That the thanks of the American Medical Association are eminently due and are hereby presented to the citizens of Louisville, Ky., for the princely hospitality publicly and privately extended to the members of this body during its present session.

Resolved, That to the Committee of Arrangements, and the Profession of Louisville generally, our thanks are due for their kind and assiduous attention to the Association, and for the hearty welcome with which they have greeted our Convention in their flourishing city.

On motion of Dr. Davis, the Association adjourned to meet at New Haven on the first Tuesday in June, 1860.

CORRESPONDENCE.

Amputation in spreading traumatic gangrene, By RUFUS H. GILBERT, M.D., of New York.—The expediency of amputation in spreading gangrene, is generally doubted both by the profession in this country and Europe—and the few who justify the operation can adduce but little if any written authority in its favor.

In the September number, 1852, of the *New York Journal of Medicine*, there is a summary of fifteen cases of amputation of the lower extremities, reported by Dr. John O. Stone, then one of the surgeons of Bellevue Hospital, in which the mortality of both primary and second-

ary operations was 46⅔ per cent. and he concludes his article with saying: "We had for some time suspected that amputation in *all* cases was a formidable alternative, and in view of the awful mortality after primary amputations, we are tempted to ask if it would not be wise to refuse to operate in all cases of severe injury."

The following case, among others in my practice, is an instance of the possibility of success in a most hopeless case, and I would offer it as a slight contribution to statistical knowledge, to aid in solving the question, which Dr. Stone pertinently asks in the commencement of his article, "How far amputation is to be recommended as a means of cure?" and lighten a picture a trifle in which the dark shades preponderate.

I was called in June, to see Mr. S. Robinson, a conductor, who was injured in consequence of the cars being thrown from the track, near Mansfield, Pa. He was standing at the time of the accident between the engine and tender, and received his injuries by his limbs being crushed between them, and the wood from the tender, which completely covering him, produced severe injuries, and punctured wounds of the back, which were afterward very troublesome. In addition to this, the left knee was dislocated backward, a rib fractured upon the left side, and a lacerated wound of the right leg, extending from the tuberosity of the tibia three-quarter way down to the foot, tearing the muscles from their origin, and penetrating the interosseous membrane, dividing the anterior tibial artery and nerve, was produced by a sharp stick.

This rather lengthy bill of fare was inflicted upon a person suffering from dyspepsia, and health much impaired otherwise, the result of long confinement in the machine shop, where he was employed at his trade, and from which he had been liberated but a few days before, hoping by the change to improve it. I did not see him until 12 o'clock at night, ten hours after the occurrence, of the accident—he had been attended by the physicians of the place, the dislocation of the knee reduced, the torn and lacerated muscle had been returned to its pocket-like wound, which was held together by strips of adhesive plaster, completely encircling the limb (as I afterward learned), over which were applied cloths wet in ice-water, to keep down an inflammation, which with severed arteries and nerves, was not very likely to occur. Brandy had been administered at first, and subsequently morphine, to relieve the pain, which was very severe. I suggested no change in the treatment then, but the discontinuance of the cold applications. At four A.M., the pain was so severe that I was called to give something to relieve pain; the limb being examined, it was found cold and livid below the wound, the knee-joint being swollen, œdematous and discolored, his pulse quick and feeble. Morning found the limb in a state of sphacelus, and the adjoining part rapidly taking on the morbid action. The accommodations were such where he then was, that it was deemed advisable to remove him to his home, a distance of thirty miles; he was accordingly carried upon a cot bed and placed upon the train, which was run at low speed; although some fatigued, he was not injured by the journey, the pure air seeming to revive him.

The constitutional symptoms were now showing themselves in great general depression; pulse 140, quick and feeble, surface cool, with moisture, vomiting and hiccough—the exhalations from the limb intolerable.

The treatment through the night was as follows: for quieting pain, and controlling vomiting, a teaspoonful of the following formulary every half hour—

Tinct. Cardamom. }	aa.	℥ j.
Aquæ Cinnam. }		
Morphiæ sulp.		grs. ij.
Misce.		

Brandy and quinine, in small doses, frequently repeated, with beef tea as nourishment, when the stomach would retain it. Locally, charcoal and yeast poultices were applied, and the part near the gangrene painted with strong tinct. iodine with creasote. Sinapisms upon the extremities and over the stomach. It was hoped that the progress of the gangrene would be arrested by those means, but in this we were disappointed. It moved steadily up the thigh, with no signs of abatement. A consultation was held at an early hour in the morning, resulting in the unanimous conclusion that amputation was the only chance. This operation was opposed, believing that it would only hasten death. This opinion seemed well founded and substantiated by Miller, in his "Principles," the best authority, who says, "the only hope of escape is in early amputation—it's a slender chance, for the probability is that the sinking may continue or even gangrene be renewed; but it is the only one, and to it the patient is entitled. While the mortification is spreading, then, we may amputate at a distance from the gangrened part in one which is sound or appears to be so—*if there be no point altogether free from incipient death*, we refrain from the knife, its use must then prove futile and would but accelerate the fatal issue."

Unfortunately there was no such point in this case—the highest place where amputation could be performed was already invaded by the disease (in the cellular tissue). The patient being anxious to avail himself of the only chance which amputation afforded, I adopted, in the place of the authority of Prof. Miller, the "I'll try" of our own Col. Miller, and proceeded to amputate the thigh at the highest point possible. chloroform having been administered by one of my assistants, Dr. W. D. Terbell, very slowly at first. The circular method was chosen as affording an opportunity of removing more of the infected parts. The hemorrhage was slight, the artery being controlled over the ilium by the thumb of an assistant. After the arteries were secured, and before the dressings were applied, the inflamed parts of the stump were painted with tinct. iodine and creasote, the constitutional treatment remaining the same. The erysipelatous inflammation extended up the stump, streaking up the trunk, but the gangrene was limited to the lower flap, half of which sloughed on the fifth or sixth day; after this the inflammation slowly subsided; the chloride of soda used as a dressing. The

ligature became encysted and broke in an effort to bring it away, two months after. Convalescence was slow, a result of other severe injuries; but he recovered his health, and is now officiating as magistrate in the village he resides in, which office he can fill quite as well with one, as two legs.

Were I to express an opinion, or lay down a principle, it would be —in all cases where death is inevitable on one hand, and there is a possibility of success upon the other, that it is the duty of the surgeon to give the patient the benefit of the chance, hopeless as it may appear, and that especially if he desires it. It is the duty of the surgeon to save life at any and all hazards, and no personal consideration or fear of censure or calumny should prevent him from its faithful discharge. The case related illustrates forcibly a principle upon which we should act with the spirit of Lawrence's "don't give up the ship," for we know not what success may crown our efforts in a case until we try. While we are vigilant to observe, we must act with promptness and dicision, remembering in these and all our efforts to save life, that "our sufficiency is of God and not of ourselves."

Case of fallopian pregnancy—Death resulting from rupture of the cyst. By WILLIAM PIERSON, M.D., Orange, N. J.—I was called on Monday, April 18, 1859, at 7 o'clock, P.M., to see a lady about thirty-five years of age, supposed to be threatened with a miscarriage. She was English, of medium stature and good constitution. Stated that she had been pregnant four times within the last six years, but had never had a living child, nor carried one the full time. Two were carried about eight months, two six. She supposed herself at this time six weeks pregnant. Had been much engaged recently in house cleaning; had, on the day I saw her, assisted in lifting a heavy stove and trunks. Ate her dinner as usual. About three o'clock was seized with severe pain in the lower part of the abdomen. An enema of warm water had been administered and hot fomentations applied. A large quantity of fecal matter was brought away, but without any abatement of the pain, which was very severe and paroxysmal—as she described it, very like the pains of labor. On my arrival, I found no distension nor tenderness of the abdomen, no discharge from the vagina, some thirst, pulse quite frequent. Patient seemed fully persuaded that she would miscarry, which had a very depressing effect upon her spirits. Not considering the symptoms of an alarming nature, I administered an opiate and left. In about three hours was again sent for, but as I had gone out of town, my father visited her in my stead. He found her much exhausted, in fact almost in a collapsed state. Pulse was very rapid and feeble, extremities cold, surface of body very pale, as though exhaustion was being produced by internal hemorrhage. Would frequently call out for assistance, and say, "Now I can feel the pains tearing down and I think you can help me." There was no discharge from the vagina nor any dilatation of the os uteri. Stimulants were administered and sinapisms applied, but to no purpose. The pains grew gradually less severe, and finally ceased, as she grew more and more feeble, fainting frequently, though she continued entirely conscious. Expired about one o'clock, A.M.

A post-mortem examination was made nine hours after death. Drs. Wicks and Truman were present. The surface of the body presented an extremely blanched exsanguine appearance, the abdomen slightly distended and tympanitic. In other respects, the body had the appearance of one who had died in perfect health. Upon opening the cavity of the abdomen, a quantity of thin, reddish-colored fluid escaped, and moving the intestines to one side, the pelvis was found to be filled with coagula, and the lower and back part of the abdominal cavity with blood, part in fluid and part in a coagulated state. By means of a sponge, at least six pounds of blood were removed. The colon was somewhat inflated, while the small intestines were smaller than usual. In the left fallopian tube was discovered an abnormal growth, which caused us carefully to remove the uterus and its appendages. The uterus was somewhat larger than in its normal state, measuring four inches in length, three in breadth, and one and a quarter in thickness. Its mouth was filled up with a gelatinous mucus, like what is usually secreted in the early months of pregnancy, and the cavity contained a perfectly formed deciduous membrane. The left ovary was longer than the right, and within was found a small encysted tumor; both were very pale in color. The right fallopian tube was normal in appearance, but in the left one, just above its junction with the womb, was a tumor of an oval form, an inch and a half in length, and an inch in width, of a dark red color. On its posterior surface was discovered a small rent, about two lines in diameter, through which protruded a transparent membrane, which, upon close inspection, proved to be part of an ovum containing a human embryo floating in the liquor amnii, with a placental attachment. The embryo was an inch in length and of a white color. Through this rent had poured the fatal hemorrhage. A human ovum had been arrested in the fallopian tube in its transit from the ovary to the womb, where it had attained the age of six weeks, and then the cyst had been suddenly ruptured, probably by the exertion of lifting heavy articles, thereby making a direct communication between the blood-vessels and the abdominal cavity. The cyst being the seat of gestation, had become highly vascular for the carrying on of the process of gestation. The placenta was attached near the opening, and veins were seen running to it and terminating abruptly, as though they had been torn across. Probably a portion of the bleeding was from these veins.

The small size of the opening in the cyst and the slowness of the current, account for the length of time the patient survived, and for the difficulty of coming to a correct conclusion until some hours had elapsed. Embryologists describe ten varieties of extra-uterine pregnancy, six of which are connected in some way with the fallopian tubes, and are much more frequently met with than the other varieties. The case we have just described was one of the simple tubular variety. It is peculiar in the fact of its occurring in the left tube, nearly five-sixths of reported cases having occurred in the right; also in the rupture occurring in so early a stage of pregnancy, for it had not existed more than six weeks, as was determined by the length of the embryo, and by the length of the time which had elapsed since the last menstrual period,

and in the fact of its not having been attended by any bad symptoms previous to the rupture of the cyst.

Aneurism by anastomosis in the orbit, and spontaneous cure.—By C. K. Fiske, M.D., St. John's, New Brunswick.—Mrs. Charles Melick, aged forty, of fair complexion, sanguine temperament, medium stature, spare habit, and the mother of several children, in March, 1848, being near her confinement, had severe pain in the left orbit and temple, and on applying cold water to the head to relieve the pain, felt a sudden snap, like the breaking of a cord or the snapping of a whip, which was followed by immediate protrusion of the globe, and great œdematous swelling of the lids and cellular tissues about the eye, and with loss of vision of the affected organ.

The swelling was reduced by treatment in a few days, but the globe continued to protrude, causing great deformity.

At the end of three weeks, there appeared a small pulsating tumor in the orbit just under the superciliary ridge, which soon increased to the size of a hickory nut, and the pulsation was so distinct as to be seen at several yards' distance from the patient.

The frontal veins became much distended, and the angular vein of the side of the nose was so turgid as to appear on the point of bursting. The circulation on the affected side of the face was greatly enlarged, and pulsation was noticeable in the veins; and to the patient, there was a constant whizzing noise in the ear, attended with various distressing sensations in the parts.

On carefully pressing my thumb upon the tumor, the enlarged veins would suddenly become collapsed, and on removing the pressure, would become turgid again. I also observed that compression of the left common carotid, immediately arrested the pulsation of the tumor.

I promised the patient a cure by the *ligation* of the carotid, to which operation she consented to submit, at any time I might think advisable; but her health being very delicate, I thought best to defer it for a few months, and it was put off from time to time for two years. At this time, by my request, she visited New York and consulted Dr. Mott, who advised her to have the operation performed at once. This, however, she declined, preferring to be at home among her friends, to undergo so dangerous an operation.

Soon after consulting Professor Mott, there were some favorable changes in the disease. The angular vein of the nose, which had been most turgid, becoming collapsed, and there was less thrill in the tumor.

I then thought best to further postpone the operation, to see what time might still do for her.

During the next four years, there was a slight increase in the size of the tumor, and I was occasionally called to relieve head symptoms, but nothing of importance occurred, till I was called in great haste to see her, as she was "very ill."

I found her suffering with great pain in the affected side of the head, and under much excitement, and much frightened.

On turning my attention to the tumor in the orbit, I found the pulsation in it had *entirely ceased*, and the distended veins had became collapsed.

I administered a mild cathartic of calomel, combined with extract of hyoscyamus and opium, and applied cold dressing to the head, and to dispel the fears of the patient, assured her that nature was working a cure more perfect than could be expected from an operation.

The pain in the head was relieved in a few hours, the whizzing sound ceased altogether, which had so long troubled her, and the pulsation in the tumor never returned, and in the course of three months it entirely wasted away.

What, for six years, had been a great deformity, and a cause of much distress, had, in a very short time, been entirely obviated, without the interference of art.

The eye was restored to its natural position, and but for the loss of vision in the affected organ, there were no remaining ill consequences.

I have had frequent opportunities to see the patient during the last three years, and she is quite restored to health, and has been able to travel to England and the Continent.

Report of Cases of Treatment of Curvature of Spine (continued). By J. A. Wood, M.D., of Boston.

CASE 7.—*Pott's Disease.*—Mrs. N. H. Richardson of Woburn, Mass., aged 36 years, tall in stature, of light complexion, and of somewhat scrofulous diathesis, came under treatment for Pott's Disease of the Spine, July, 1858.

The following is a brief history of the case from its commencement to the time I first saw it, as related by the patient.

Eight years ago she was attacked with pulmonary disease unprovoked by a cold, characterized at first with a dry, hacking cough, which, at a subsequent period, became urgent, attended with copious expectoration, occasionally tinged with blood, emaciation and extreme prostration, with hectic and night sweats.

This sickness continued more than six months, and for many weeks during that period the attending physician and friends of the patient entertained little or no hope of her ultimate recovery.

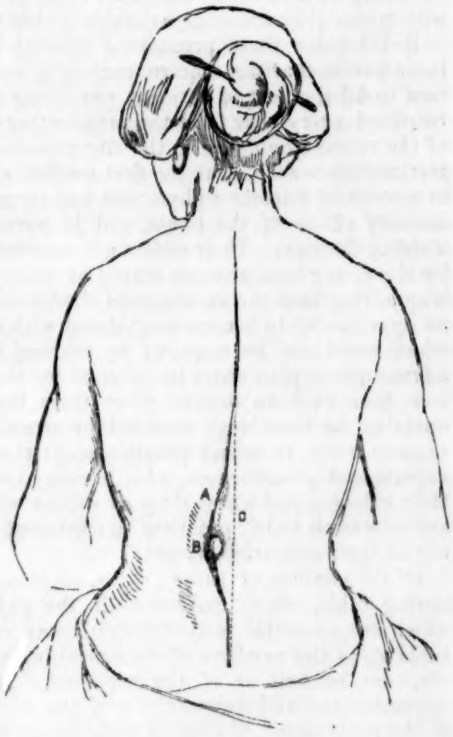
While in this situation she first began to experience pain in the vicinity of the second and third lumbar vertebræ, with some degree of tenderness on pressure, which did not subside on her recovery from this severe sickness, but both continued with greater or less severity at times, soon accompanied with curvature of the spine, which was quite apparent, even when the patient was standing, or walking about.

In April, 1857, the case assumed a more formidable character.

At that time, from some violent exertion on the part of the patient, in consequence of sudden fright, the pain was greatly increased and the curvature more rapidly developed than at any former period of the disease.

The difficulty progressed, and on examining the case in July, 1858, when my attention was first directed to it, I found the second and third lumbar vertebræ projecting posteriorly, as seen at B, in the

accompanying cut, about half an inch, forcing those directly above and below, more or less, from their normal position.



In connection with this posterior projection, there was also, a lateral reflection of the spinal column, to the left, embracing the lumbar, and several of of the lower dorsal vertebræ, as seen at A in the accompanying figure, which represents, *correctly*, the extent and degree of this lateral inclination of the spinal column.

The pain was severe in the back, hip, and left lower extremity, with a partial loss of power in that limb. The muscles were contracted, drawing the body to one side, rendering exercise difficult and painful.

The treatment was simply mechanical, and consisted in the application of a Spinal Apparatus, such as has been described in a former number of the *N. Y. Journal of Medicine*, appropriately adjusted and readjusted at such times and manner as the nature of the case demanded.

The usual instructions in regard to regimen in those cases were given, with the recommendation only, of *moderate* exercise.

The patient has fully recovered, with a *complete* reduction of the curvature, as seen at c in the above cut.

June 16, 1859.

EDITORIAL.

The advantages of New York for medical instruction.—The character of the population of the city of New York renders it necessary that a greater than the usual proportion of its people should be provided for, and in sickness taken care of, in its public institutions. These are doubtless much larger therefore, and more numerous than in any other city in the Union, and in them are presented more extensive materials for clinical instruction, which, we do not hesitate to say, will compare

favorably with those of our sister cities in the thoroughness and ability with which they are made available to the student.

But besides these preëminent clinical advantages, these numerous large public charities require, each of them, a certain number of young men to fill the post of resident physicians and surgeons, and these are recruited every year from the ranks either of the advanced students or of the recent graduates of the city schools. The organization of these institutions is such, that the first medical and surgical talent is secured in a corps of attending physicians and surgeons, who take charge of the sanitary affairs of the house, and in particular superintend the treatment of the sick. Their orders are received and carried into execution by the young men who are acting as resident physicians and surgeons, who having thus the immmediate charge and care of the patients, have an opportunity to become acquainted with disease and its management, which could not be acquired by years of private practice. No more advantageous plan could be adopted for the improvement of the young men, than such an one as gives them the opportunity of practically applying the knowledge acquired by attendance on lectures and in systematic study, to actual practice under the supervision and direction of experienced practitioners, who, in many instances, are the professors in their colleges, and whose duty as well as interest it is to give every care and attention to the practical education of the young men who are acting as their executive officers.

Of the number of these places, an idea may be formed from the following table, which embraces all the public institutions in the city which are accessible to students either as residents or as visitors. The table gives the numbers of the consulting and attending physicians and surgeons, as well as of the residents. These former are permanent appointments, and embrace men of the highest character and standing in the profession. Owing to some recent changes, the list may not be accurate in all its items. It is believed, however, to be substantially correct :

	Consulting.	Attending.	Residents and Assistants.
New York Hospital	6	10	9
Bellevue "	4	16	21
Penitentiary " Blackwell's Island	0	—	10
Nursery " Randall's Island	—	—	3
Emigrant Refuge Hospital, Ward's Island	—	1	3
Quarantine Hospital, Staten Island	—	—	4
Brooklyn City "	2	8	2
Jew's "	3	8	1
St. Vincent's "	—	—	2
St. Luke's "	4	8	1
* Lying-in Asylum	4	—	1
Nursery and Child's Hospital	4	4	1
* Women's Hospital	4	1	1
* Lunatic Asylum	—	—	3
* Seamen's Retreat	—	—	2
City Dispensaries (5)	22	69	1
Eye and Ear Infirmaries (2)	4	6	0
* City Prison	—	1	—
Long Island College Hospital	—	6	2

* Accessible only by special permission.

Of these, it will be observed that the large general hospitals, which are the first on the list, afford the greatest number of these places, and these are more sought after by students, and are really the most valuable, as presenting them a large field for the study of general practice. The special hospitals, the infirmaries and the dispensaries, have either no residents, or but one, who is apt to be permanent in his position.

All of these places are more or less accessible to any student, who by diligence and attention to his studies, renders himself competent to fulfill their duties. In the New York Hospital, and in the Bellevue Hospital, two of the largest and most important general hospitals in the city, the selection of residents is made from all students or graduates who may apply for places, without any other requirements than good character, a full period of study, generally two years, and competency and ability, as evinced in a comparative examination of the candidates before the attending Board. All who choose to apply, who can present the proper certificates of character and time of study, are admitted to an examination, and according to the rank they take in this examination, is their chance of receiving the appointment.

In former times this was not so. The appointments were then made out of the offices of the attending physicians and surgeons, and no student who was not in the office of one of these gentlemen as a private pupil, had any chance of a hospital place, except on paying a fee of $100 or $150 for the nomination. This plan was found to work unfavorably to the interests of the institutions, by limiting the choice to a few men, not always the best students, and by excluding altogether the country students, whatever might be their merits or qualifications. The whole plan has therefore been changed, and the examination is free to all. No fee is exacted or allowed to be received, and no favoritism is shown in the nominations, so that as the arrangements are now made, the services of the best men are secured, an equal chance being given to all, whether from the city or the country, and whether they are private pupils to a hospital surgeon or to a country practitioner.

In most of the hospitals the appointments run for two years. In the New York Hospital this period is divided into three terms of eight months each. In the Bellevue Hospital the appointment is for eighteen months, which is divided into three terms. During the last term in the New York Hospital, and the last two terms in the Bellevue Hospital, the student has his board and washing free, and lives in comfortable rooms in the establishment. In the other hospitals, plans, in the main similar to those described, are adopted for securing the services of the best among the young men, to take charge as residents of their inmates.

It is beyond contradiction that no city in this country offers so many and so valuable positions to young men ; and it is confidently believed, that in no city are they so uniformly the reward of talents and capacity, and so little the gifts of favoritism or patronage.

Another noticeable feature of medical instruction in New York, is the number and value of the prizes offered as incentives to, and

rewards of excellence in various departments of undergraduate study. Besides the prizes offered by the professors of each of the colleges to their own students, there are a number of very valuable ones offered for general competition at the hospitals, viz.: one by Dr. Jas. R. Wood, at the Bellevue Hospital, of $50 for the best anatomical preparation fit for preservation in the museum; and a similar one at the same institution, by Dr. Geo. T. Elliot, for the best preparation illustrating the anatomy of the female pelvis. At the New York Hospital the governors offer a prize of $50 for the best preparation illustrating any point in surgical anatomy or pathology; but the most munificent of all these prize foundations is one which has this year been established by Dr. Jacob Harsen, a wealthy and liberal alumnus of the College of Physicians and Surgeons. He offers a prize of a gold medal worth $50, and a sum of money not less than $100, for the best report of the clinical instruction given at the New York Hospital, during any four months of the year preceding the commencement in March. This prize, however, is not a general one, being open for competition to the students of the College of Physicians and Surgeons only. There are few, if any, more valuable prizes, offered to undergraduate merit in any city in the world, than this one of Dr. Harsen's, and its value becomes much enhanced by the fact of its having been made a permanent investment by the liberal founder, the interest of which is to be applied to furnishing the annual prize.

Convention for revising the Pharmacopœia of the United States.—The convention which met in Washington in May, 1850, for revising the pharmacopœia, provided for the assembling of a convention for the same purpose in 1860, as follows: The president of this convention, Prof. Geo. B. Wood, of Philadelphia, was directed on the first of May, 1859, to issue a notice inviting the several incorporated State Medical Societies, the incorporated Medical Colleges of Physicians and Surgeons, and the incorporated Colleges of Pharmacy, to elect delegates, not exceeding three, to attend a general convention to be held at Washington on the first Wednesday of May, 1860. The names of such delegates, with their residences, were directed to be transmitted to the president of the convention, for publication. These medical and pharmaceutical bodies were also requested to submit the pharmacopœia to revision, and transmit the results of their labors to the next convention.

NEW PUBLICATIONS.

Gray (Henry). Anatomy, Descriptive and Surgical, with three hundred and sixty-three engravings on wood. Philadelphia: Blanchard and Lea, 1859.

Bird (Golding). Urinary Deposits: their diagnosis, pathology, and therapeutical indications. A new American, from the fifth London edition, with eighty illustrations on wood. Philadelphia: Blanchard and Lea, 1859.

Fownes (George). A Manual of Elementary Chemistry, theoretical and practical. From the seventh revised and corrected London edition. Philadelphia: Blanchard and Lea, 1859.

Dickson (Samuel Henry). Elements of Medicine: A Compendious View of Therapeutics; or the History and Treatment of Diseases. Second edition. Philadelphia: Blanchard and Lea, 1859.